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ABSTRACT

A survey of students' and principals' reactions to the Minneapolis public school lunch program is described, and the results and comments are presented. Meals are prepared on site at ten secondary schools, and prepacked at the nutrition center and reheated before service at other schools. Questionnaires were completed by 1,582 students in 25 schools. The samples were made up of fifth, eighth, and eleventh grade students. Eighty of the 82 principals in the school system completed their questionnaires. Topics considered in the survey included: student ratings of overall quality and quality of specific food items; student consumption of food at breakfast and lunch and food waste; principals' and students' perceptions about the time for lunch; students' preferences among foods not now served and special food needs; and suggestions for improving the program. The report concludes with a discussion and a number of recommendations. (Copies of the questionnaires and a tabulation of the responses are appended). (CTM)

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Planning and Support Services Division

Minneapolis Public Schools

Minneapolis Public Schools

Students' and Principals' Survey Reactions to the 1976-77 Minneapolis Public School Lunch Program

by

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Ideas expressed in this report do not necessarily reflect the official position of the Minneapolis Public School Administration or the Minneapolis School Board.

February 1978
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Minneapolis Public Schools

Students' and Principals' Survey Reactions to the 1976-77 Minneapolis Public School Lunch Program

SUMMARY

On request of the Superintendent's Citywide Committee on Nutrition, the Minneapolis Public Schools' Research and Evaluation Department conducted surveys to obtain information for improving the Lunch Program--specifically, ways of increasing student participation and reducing food waste. In May and June, 1977, questionnaires on the Lunch Program were completed by 1,582 5th, 8th and 11th grade students in 25 schools, a sample designed to represent all Minneapolis students at those grade levels. A second questionnaire was completed by 80 of 82 principals.

Some major results were as follows:

Student Participation Findings

Data made available by the Minneapolis Schools' Nutrition Center as background for the surveys suggest that each day during 1976-77 about 44% (18,800) of the students attending in grades 1-12 ate a whole school lunch. Daily participation, however, ranged from 18% among senior high students to 61% among elementary students.

Although 39% of Minneapolis students were eligible for free or reduced-price lunches, a disproportionately high 65% of the whole lunches served daily were served to these students; the remaining lunches were purchased at full price.

Among surveyed students on the day of the survey, 9 of 10 5th graders, 8 of 10 8th graders, but only 6 of 10 11th graders said they ate some lunch (a school lunch, bag lunch, or other food).

Student Ratings of the Whole School Lunch

During 1976-77 all elementary schools and 7 secondary schools served "prepack" lunches; i.e., lunches cooked and prepackaged at the Nutrition Center. The remaining secondary schools served lunches "on site"; that is, they had their own kitchens, or received bulk food in trays for on-site serving onto plates. The published lunch menus for prepack and on-site schools were the same.

Whether based on a question about overall taste, or based on a composite rating of reactions to separate school lunch foods, average student ratings of the school lunch were in the "Fair" or "So-So" range. Favorites among currently served school lunch hot foods included pizza and hot ham and cheese sandwich. Popular cold foods included Snoopy bar (peanut butter), frosted brownie, apple, orange, and pudding with topping.

The highest average ratings of the school lunch were made by frequent customers (who ate the school lunch at least once a week); by younger (5th grade) students; and among secondary students, by those respondents in schools where food was prepared or served on site.

The Amount of Food in the School Lunch

Older students and boys were more likely than younger students and girls to express dissatisfaction with the amount of food in the school lunch. For example, two-thirds of the 11th grade boys said the school lunch had too little food. Among surveyed secondary whole lunch customers, 20-25% indicated that they purchased additional school food in the a la carte line nearly equivalent to a second whole lunch.

Food Waste and Giveaway

Among 5th and 8th grade respondent groups, one-fifth to one-half indicated they usually threw or gave away half or more of their lunch (includes both school lunches and lunches brought from home).

Students' Suggestions for New Foods To Be Added to the Regular Whole Lunch Menu

Based on student reactions to specifically named new foods, and student write-in nominations, the following items are among those acceptable to many students: ice cream, corn dog, salads, soup, chow mein, chicken, malt or milkshake (not available to 5th graders), beef, barbecued chicken or ribs, sandwiches and submarines, lasagna, and pie. Soft drinks, snack chips, and cakes--already available in secondary-school snack bars--were also frequently nominated for inclusion in the regular school lunch.

Recommendations

The following recommendations are offered for consideration. Readers should be forewarned that: (a) Some recommendations may be difficult to implement because of cost (e.g., recommendations to offer greater choice). (b) Other recommendations may conflict with School District priorities (e.g., a longer lunch period may reduce instructional time). Finally, (c) some recommendations may already have been addressed, in part (e.g., Recommendation 1).

The recommendations are:

1. Use the results of the student survey to plan menu improvements.
2. Offer elementary students a choice of two or more different whole lunches.
3. Offer a choice in food quantity; in particular, offer a larger whole lunch for secondary students.
4. Study the need to change any lunchtime procedures that may lead to an "eat-and-run" atmosphere; for example, recess after lunch, short lunch periods, and policies for dismissal from lunch tables.
5. Assess student acceptance of the Lunch Program regularly, and encourage the Nutrition Center's current efforts to work with student advisory groups.
6. Implement recommendations of a recent management and technical assistance study of the Minneapolis Lunch Program, conducted by State and federal officials.
7. Encourage Nutrition Center staff to maintain communication with food service personnel in other school systems where "super kitchens" produce prepack meals. The purpose of such conferences would be to discuss common problems and their solutions.

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In parentheses after each table heading in this index is a designation of the questions on which the table is based where--

A = questionnaire for students in grade 5
B = questionnaire for students in grades 8 and 11
C = questionnaire for principals

and the numbers in parentheses refer to the questions as numbered on the original questionnaire.

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Minneapolis Public Schools

STUDENTS' AND PRINCIPALS' SURVEY REACTIONS TO THE 1976-77 MINNEAPOLIS PUBLIC SCHOOL LUNCH PROGRAM

Paul S. Higgins
Research Specialist

In October, 1976, Minneapolis Public Schools' Superintendent Raymond Arveson appointed the Citywide Committee on Nutrition--composed of parents, teachers, principals, concerned citizens, and students[1*] --to improve both food services and nutrition education programs.

In February, 1977, the Citywide Committee on Nutrition asked the Minneapolis Schools' Research and Evaluation Department to survey students and principals concerning the School Lunch Program. The present report presents the results of this survey.[2]

The purposes of the survey and this report are to suggest ways of increasing student participation and reducing student waste in the Minneapolis School Lunch Program. These purposes are consistent with that part of Superintendent Arveson's charge to the Citywide Committee on Nutrition which states that the Committee shall:

> "a. Suggest ways for increasing student participation in school food service programs."
>
> and--
>
> "b. Evaluate school food service programs through the building level and make suggestions for improvement to the Nutrition Center."[3]

The Citywide Committee on Nutrition was convened in order to assist the School District administration in long-range planning of food services delivery and nutrition education. The Committee decided to focus first on food services delivery.

The long-range planning of improved food services delivery requires many kinds of information, from many sources. One source of recommendations for such improvement is the report of a food services management and technical

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* Notes are listed on pp. 47-49. These notes cite reference materials and provide technical discussion for readers desiring this additional documentation.

assistance effort conducted in the Minneapolis Public Schools during the period November 15, 1976--January 5, 1977, by representatives of the Minnesota Department of Education and the United States Department of Agriculture (Minnesota Department of Education, Child Nutrition Section, & United States Department of Agriculture, Chicago Regional Office, 1977*).[4]

Student and staff opinions are another valuable resource for improving food programs. The 1976-77 management and technical assistance report did not include a systematic survey of students or staff, although "on several occasions students were spoken to regarding the [lunch] program and ... [the authors] found their comments, ideas, and criticisms highly constructive" (p.2).

The present surveys of students and principals are the only large-scale, representative samplings of consumer opinion about the School Lunch Program since the opening of the Nutrition Center and the first implementation of prepack service. The Citywide Committee on Nutrition and the authors of the management and technical assistance report felt that such a survey, particularly of students, was necessary for food services improvement. The management and technical assistance report suggested in several places (e.g., pp. 19, 20, 22) that communication between student consumers and Nutrition Center producers be improved.

Accordingly, the Citywide Committee on Nutrition approved, during its March and April meetings, questionnaires for students, a questionnaire for principals, and a procedure for questionnaire administration. Copies of all questionnaires are in the Appendix to this report (see pp. 52-65).

Before discussing the methods and results of the surveys, some descriptive information on the 1976-77 operation of the Minneapolis School Lunch Program, some criticisms of the Program that appeared in the fall of 1976, and some 1976-77 data on student participation in the Program will be presented.

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* A complete description of each reference in this report can be found in the References section, p. 50. References are listed alphabetically by author.

Operation of the Minneapolis School Lunch Program During 1976-77

During 1976-77 Minneapolis public schools had several types of food service, which can be categorized as either "prepack" service or "on-site" service.

Prepack service was the daily delivery of lunches cooked and prepackaged at Minneapolis Public Schools' Nutrition Center. Each prepack lunch in 1976-77 consisted of an aluminum "hot pack" tray containing foods to be reheated before service; a styrofoam "cold pack" tray containing cold foods; and milk or a milkshake.

The Minneapolis Public Schools' Nutrition Center, where prepacks are produced, opened in winter of the 1975-76 school year. The Center is a central kitchen with modern and large-scale food storage, food preparation, and meal assembly equipment. About 50,000 prepack meals per day could be produced at the Center, a figure approximating the 1976-77 Minneapolis enrollment of 52,402 (Information Services Center, 1976). The Center is one of a few nationally recognized prototypes of "super kitchens" designed to feed America's urban school children (see the magazine article, "Minneapolis' $5 Million Nutrition Center," 1976).

During 1976-77 a number of schools began serving prepack lunches for the first time. By the end of the school year (also the time of the survey) all elementary schools had prepack service. Among the secondary schools 3 of 12 junior highs (Bryant, Jordan, and Phillips), the Ramsey 9th grade center, and 3 of 8 senior highs (Central, North, and West) had prepack service at the time of the survey.

The remaining secondary schools had "on-site" service. On-site service was present (a) in schools where lunches were cooked and served on site in the school's own "unit kitchen" (Anthony, Nokomis, and Northeast junior highs; Edison, Henry, Roosevelt, South and Washburn senior highs; and Marshall-University and Southwest junior-senior highs) or (b) in schools where food in bulk trays was shipped daily from the Franklin Junior High kitchen (Folwell, Franklin, Olson, Sanford, and Sheridan junior highs).

1976-77 Newspaper Criticism of the Minneapolis School Lunch Program

During the fall and winter of the 1976-77 school year there appeared several newspaper articles critical of the Minneapolis School Lunch Program.

Some articles were critical of the "prepack" lunch being served in nearly all elementary schools and in many secondary schools (e.g., McCabe, 1976; Anderson, 1976).

Waste of food was another focus of these articles. One school-newspaper article not only criticized waste of prepack-lunch food, but also criticized the waste of non-renewable resources since aluminum hot pack containers and styrofoam cold pack containers were buried in sanitary land fills instead of being recycled at that time (Dunham, 1976).

These critical articles were largely based on the opinions of students and staff concerning the Minneapolis School Lunch Program. For example, McCabe in preparing his article, "visited several schools...and interviewed scores of students, teachers, parents, principals, administrators and school custodians." Anderson "spent a week eating with students in Minneapolis to get their opinions on the lunches." Dunham interviewed high school classmates and reported a count of food waste in 10 garbage buckets.

Open to serious question, however, is the degree to which the students and staff sampled for these newspaper articles fairly represented the opinions of all Minneapolis students and school staff. The Citywide Committee on Nutrition, in sponsoring the present surveys, apparently did not feel it could use these journalistic accounts as reliable sources for long-range planning.

1976-77 Student Participation in the Minneapolis School Lunch Program

Even though the productive capacity of the Nutrition Center is 50,000 meals per day, during a period midway through the 1976-77 school year (January 10 to February 4), the Center produced an average of about 14,600 prepack lunches per day for Minneapolis Public School students in regular public school programs (see Table 1*). An additional 2,800 lunches per day were produced in self-contained kitchens at 10 secondary schools. About

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* Most statistical tables for this report are in the Appendix and are numbered consecutively. Tables incorporated into the text are assigned letters--i.e., A, B. A complete index of all tables can be found on pp. vii-x.

1,400 lunches prepared at the Franklin Junior High kitchen were shipped in bulk to 4 junior highs for on-site service; Franklin students also ate some of these lunches. In total, the Lunch Program served a complete, whole lunch (according to a menu printed weekly in Minneapolis newspapers) to 18,800 students per day during this period. Given an estimated average daily attendance (excluding kindergartners, who don't eat lunch at school) of about 42,500 students during 1976-77[5], the average overall daily participation in the Minneapolis School Lunch Program was 44%.

Of the lunches served on a given day, about half (54%) were served to students eligible for free lunches; slightly over 1 in 10 were served to students eligible for reduced-price lunches; and the remaining third (34%) were purchased at the full price (55¢ for elementary full-pay students; 65¢ for secondary students).

Among Minneapolis students, about one-third (31%) were approved to receive free lunches, about one in ten (8%) were approved for reduced-price lunches, and the remaining three-fifths (61%) were not currently eligible for a free or reduced-price lunch.

In short, about 18,800 or 44% of Minneapolis Public School students in regular programs got the school lunch each day, on the average, during 1976-77. Among these participating students, students eligible for free lunches were overrepresented, and students who paid the full price were underrepresented, in relation to the proportions of these two groups in the total student population.

Differences Among Schools in Participation in the Lunch Program

The overall 44%-participation statistic masks large differences in participation (a) among schools housing different grade levels and (b) among schools with different proportions of students eligible for free or reduced-price lunches.

Participation by all elementary students (61%) was over twice that of all secondary students (29%). The poorest participation in the school lunch program (18%) was among senior high school students.

The most striking differences in participation were among schools with different proportions of students eligible for free or reduced-price lunches.

Citywide, about half (48%) of the elementary students and about one-third (31%) of the secondary students were eligible for a free or reduced-price

lunch during 1976-77. Figures 1 and 2 (in the Appendix, pp. 126, 127) however, show that the proportion of students eligible for a free or reduced-price lunch in a particular school ranged from nearly 0% to 100% among elementary schools, and from about 10% to 80% among secondary schools.

School-by-school participation percents ranged from about 20% to 100% for elementary schools, and from about 10% to 65% for secondary schools.

Participation in a school's lunch program was directly proportional to the percentage of students in that school eligible for free and reduced-price lunches. This relationship was particularly strong for elementary schools (see Figure 1). For elementary schools, the correlation coefficient (r) between a school's percent participation and percent eligible for free or reduced-price lunches was a nearly perfect .94 (a straight-line or perfect relationship would be represented by $r = 1.00$). This means that we can predict an elementary school's percent participation almost perfectly from knowledge of that school's percent eligible for free or reduced price lunches.[6]

Figure 2, for secondary schools, is similar to Figure 1, except the relationship between participation and free or reduced lunch eligibility, though a strong $r = .70$, is not quite as high.[7] Operating at the secondary level are additional factors--different types of food service and different types of school (junior v. senior high)--that seem to produce some variability in participation independent of the effect of percent eligible for free or reduced price lunches.

Self-Reported Student Participation in the 1976-77 Minneapolis School Lunch Program

In addition to official participation statistics provided by the Nutrition Center, we can report from the student survey the self-reported frequency with which a representative sample of students got a whole school lunch.

The first question on the student questionnaire was, "How often do you get a whole lunch at school?" (See the METHOD section for a description of the survey procedures and student sample.) Table 3 (in the Appendix) shows that participation in the Lunch Program decreases as grade level surveyed increases. Nearly three-fourths (72%) of the 5th graders, slightly over half of the 8th graders, but only about one in five 11th graders indicated they got a whole lunch in school every day or nearly every day.

Whether a school had prepack v. on-site service did not apparently affect participation for 8th graders; however, among 11th graders the proportion of students who ate a school lunch every day, or nearly so, was slightly greater in on-site than in prepack schools (26% v. 18%). In general, however, participation by 8th and 11th graders in the Lunch Program was highly similar in the prepack and on-site schools. About half of the 11th graders in both prepack and on-site schools indicated that they never got a school lunch.

Student Perceptions of the People Involved in the Decision to Get, or Not Get, a School Lunch

The Citywide Committee on Nutrition was interested in the role of parents v. students in the decision to participate in the Lunch Program. Accordingly, Question 4 on the student questionnaire was, "Who decides whether or not you will get a lunch at school?"

Table 4 (p. 71) shows that as grade level surveyed increases, students were more likely to indicate themselves, and not their parents or guardians, as the deciders of whether or not they would get a school lunch. A second general trend in Table 4 is that within a grade level, and for both types of service (prepack v. on-site), infrequent school lunch customers were more likely than frequent customers to say they, and not their parents, decided whether or not to get a school lunch. Putting the two trends together, one can note that well over half of the 5th graders, especially the frequent customers, indicated their parents had at least some role in the lunch decision. Among the 11th graders, well over half, and 9 of 10 infrequent customers, indicated they were solely responsible for the lunch decision.

Following this introductory section, the text of this report is organized into the following major sections: METHOD, RESULTS, and DISCUSSION AND RECOMMENDATIONS.

METHOD

How the Student Survey Was Conducted

In May and June, 1977, questionnaires on the School Lunch Program were completed by 1,582 students in 25 schools. The yellow questionnaire, for elementary students (pp. 53-57), was completed by 671 5th graders at Andersen B (67 students), Armatage (44), Field (75), Hamilton (26), Holland (28), Keewaydin (36), Lincoln (53), Longfellow (41), Lyndale (51), Pratt (106), Waite Park (73), and Wilder A (71).

The pink questionnaire, for secondary students (pp. 58-62), was completed by 497 8th graders at Anthony (87), Bryant (56), Franklin (86), Jordan (54), Nokomis (81), Phillips (76), and Marshall-University (57); and by 414 11th graders at Central (82), Henry (51), North (50), Roosevelt (77), South (45), West (61), and Marshall-University (48).

Schools were selected for the student survey to fairly represent all Minneapolis public schools with respect to (a) percent participation in the school lunch program, (b) percent eligible for free or reduced-price lunches, (c) grade range of school, (d) location within the city, (e) type of food service (relevant for secondary schools only), and (f) minority enrollment. Participating elementary schools represented "open," "traditional," and "continuous progress" curriculum types.

Figures 1 and 2 (pp. 126, 127; surveyed schools are circled) and Tables 1 and 2 (pp. 67-69) suggest that surveyed schools were in fact representative of Minneapolis schools with respect to percent participation, free or reduced-price lunch eligibility, type of service, and minority enrollment. Primary (K-3 or K-2) schools were not, of course, surveyed, since the youngest respondents were in grade 5.

All schools originally selected agreed to participation in the study. Principals of selected elementary schools were asked to provide a representative group of up to 80 5th graders. Principals of selected schools with 8th graders were asked to provide a group of 80 8th-grade students having the same general range of academic achievement, racial/ethnic group membership, and family background as their school's total 8th grade. It was suggested that perhaps 2 or 3 8th-grade social studies classes would constitute such a representative group.

Likewise, principals of selected schools with 11th graders were asked to provide a group of 80 11th-grade students having the same general range of academic achievement, racial/ethnic group membership, and family background as their school's total 11th grade. It was suggested that perhaps 2 or 3 11th-grade health classes would constitute such a representative group.

All principals were requested to arrange convenient 30-minute periods early in an afternoon for administration of the questionnaire.

In most cases, the selection of students by principals (or other staff) and the administration of the questionnaire in the afternoon proceeded according to plan.[8]

How the Survey of Principals Was Conducted

At the same time the student survey was being conducted, the green questionnaire (pp. 63-65) was mailed to the principal of every regular school program. Nearly all (80 of 82) principals eventually returned their questionnaires; a reminder memo had been sent to those not responding to the first mailing.

RESULTS

This section summarizes the results of the student and principal surveys. The reference documents for this section are the 54 detailed tables contained in the Appendix, starting on p. 67.

The reader should note that in this section and in the tables the results are presented separately for 10 different student groups. That is, the results are broken down (where possible) by the three grade levels of students (5, 8, and 11); the type of food service (prepack or on-site); and the type of student customer surveyed (frequent or infrequent). Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole school lunch less than once a week.

Results of the surveys are organized into five main topics:

1. Student ratings of the quality and value of the Minneapolis school lunches. Included under this topic are student ratings of the overall taste, appearance, cost, and amount of food in the school lunches. Other food qualities (e.g., temperature, texture) are also rated. Student ratings of individual hot and cold food items in the school lunch, as well as composite ratings of the whole lunch based on these individual food ratings, are also presented.

2. Student consumption of school lunches and other food on the day the survey was taken. Included under this topic are student self-reported consumption of lunch and breakfast, consumption of a whole school lunch, purchase of a la carte food, consumption of food brought from home or purchased at a fast-food operation. Data on student self-reported lunch waste or food give away are also reported. Also answered is the question, "Where do students eat lunch?"

3. Lunchtime in the Minneapolis Public Schools: A portrait based on procedures, policies, and principals' and students' perceptions. This topic, based largely on the questionnaire responses of principals, describes: the length of the lunch period in various schools; the placement of recesses before v. after lunch; time or other requirements to be met before students can leave their lunch table; the size of eating groups; students' perceptions of the friendliness of lunchroom staff; the presence of nutrition education posters in the lunchroom; nutrition education efforts during the school day to teach students the value of various school lunch foods; procedures followed when students bring no lunch and have made no provision to get a lunch; the

reasons why potentially eligible students have not applied to receive a free or reduced-price lunch; and the supervision of each school's lunch program by staff from the Nutrition Center.

4. Students' preferences among foods not now served, and their medical and religious food needs. What new foods did students suggest for possible inclusion in school lunches? What foods do students avoid for medical, dental, religious, family, or personal reasons? Answers to these questions are discussed as part of this fourth topic.

5. Suggestions for improving the Minneapolis School Lunch Program. This topic includes principals' suggestions for increasing participation, and for reducing the amount of school lunch food thrown or given away. Principals also describe their lunchroom-equipment needs. Students also had the opportunity to make suggestions, and about three-fourths (74%) took the opportunity to do so.

1. Student Ratings of the Quality and Value of the Minneapolis School Lunches

The following student ratings of taste, appearance, other food qualities, amount, and cost apply to the 1976-77 Minneapolis school lunches; and more specifically, should probably be considered as applying to the lunches being served during May and June, 1977.

Taste

On a 5-point scale where 1=Very poor, 2=Poor, 3=Fair, 4=Good, and 5=Very good, the average rating of the taste of the school lunches was generally between 2=Poor and 3=Fair for the various student groups. This finding is based on Question 17 of the student questionnaire, "How good do the school lunches usually taste?" The detailed results for this question are tabulated in Table 12 in the Appendix.

Furthermore, among frequent customers at each grade level surveyed, from 4 to 5 out of 10 answered "Fair" to the question, "How good do the school lunches usually taste?"

Frequent customers had more favorable opinions of the taste of school lunches than infrequent customers. Within the same grade level, frequent customers rated taste ½ a scale point higher, on the average, than infrequent customers. In addition, for grades 8 and 11, where different types of food service existed, students in on-site schools rated taste an average ½ point higher than students in prepack schools. These two effects were cumulative,

so that the highest average secondary-school taste ratings (of about 3) were made by frequent customers in on-site schools. Note, however, that frequent customers among the 5th graders also tended to rate the school lunch about 3, on the average.

The statistical significance of observed differences in average ratings between groups. All taste differences reported in the previous paragraph are statistically significant, and would be likely to have occurred "by chance" only 5 or fewer times out of 100.*

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*The following technical note is intended for those readers who wish a discussion of statistical significance and practical significance as these two terms apply to the student survey data:

Given groups (samples) of the size found in this student survey (n's of at least 60), differences of about one-third or more of a scale point between the average taste ratings of any two student groups are statistically significant, using the 5% significance level and an appropriate 1-tailed z or t test. Therefore, all taste differences of ½ a scale point, reported above and on the previous page, are statistically significant.

Given samples with the same variability in ratings (in this case, the standard deviations all approximate 1), however, it is easier to find statistical significance between means from large samples than means from small. If all the surveyed groups were as large as the 5th grade frequent customer group (n about 500), than a difference of one-tenth scale point between two such large groups would be statistically significant. Under usual circumstances, such a small average difference between groups, representing only one-tenth of a group's standard deviation, would not have practical importance; the two groups would probably overlap almost completely in their total pattern of ratings. Thus, there would be no important difference between the means or ratings of the groups, even if there were a statistically significant mean difference.

We therefore introduce the concept of practical significance, to indicate a difference between two groups that "reasonable" people would agree is important; in short, a difference that "makes a difference," or a difference that would cause us to regard two groups as definitely different (e.g., in this case, in the way they rated the school lunches).

Terms like "reasonable," "makes a difference," and "important" do, of course, beg the question. A rough guideline might be that a mean difference between two groups of at least one-third a group standard deviation is practically significant. Again, given student groups of the size found in this study, mean differences of this size are also statistically significant.

Appearance

Students in the various groups again generally rated the appearance of the school lunches between 2 and 3, on the average, on the same 5-point scale used to rate taste. From 3 to 5 in 10 of the frequent customers in each group answered "Fair" to the question, "How good do the school lunches usually look?" (See Table 14 based on responses to Question 18.)

Again, there were statistically significant cumulative effects for type of customer and type of service, with the highest secondary-school appearance ratings (of about 3=Fair) being made by frequent customers in on-site schools. Frequent customers among 5th graders, however, also gave the school lunches an appearance rating of about 3=Fair, on the average.

Other General Food Qualities

Students were asked to rate how often the school lunches contained foods with unpleasant general qualities; namely, foods "that are supposed to be hot, but instead are too cool or frozen" (Question 21); "that are supposed to be cold, but instead are too warm" (Question 22); "that are too dry or too hard" (Question 23); or "that are too soft or mushy" (Question 24).

Possible ratings were "Every day, or nearly every day," "Sometimes," "Hardly ever," "Never," or "I don't know."

Table A on the next page* shows the percent of each student group observing these unpleasant general qualities in the school lunch "Every day, or nearly every day."

A perceived problem at all schools, regardless of grade level or type of service, was vegetables in the school lunch that were too soft or mushy. About a third of the frequent customers in each student group observed this problem almost every day.

School lunch foods that were too dry or too hard was a problem observed by about one-third of the 8th grade frequent customers and one-half of the 11th grade frequent customers in prepack schools. Students in on-site schools and 5th graders were not as likely to perceive food dryness or hardness as an everyday problem.

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* Lettered tables, like Table A, summarize one or more of the numbered tables in the Appendix. The lettered tables immediately follow the page in the text where they are first cited.

Table A
Percentage of Students Observing Various Unpleasant Qualities in School Lunch Foods "Every Day, or Nearly Every Day"

"Every day, or nearly every day" the school lunches contain foods that are--	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
Supposed to be hot, but instead are too cool or frozen.	9	5	14	14	9	9	13	9	6	4
Supposed to be cold, but instead are too warm.	5	2	5	11	3	5	3	8	0	3
Too dry or too hard.	12	13	30	35	18	16	47	19	11	11
Too soft or mushy	31	29	27	30	30	21	39	22	37	15

Note. This table summarizes Tables 18-21 in the Appendix, based on responses to Questions 21-24, respectively, on the student questionnaire.

Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen.

Foods that were too warm or too cool, while apparently served in the school lunch from time to time, were not perceived as an everyday occurrence by most students.

Student Ratings of Individual Hot and Cold Food Items in the School Lunch

Tables 25-30 are based on ratings students made on pages 3 and 4 of the questionnaire for individual food and beverage items. The school lunch menu was changed several times during 1976-77. These food and beverage items with the exception of the milkshake were those appearing regularly in the May and June, 1977, menu (printed weekly in the newspaper). Although these items were considered to have appeal for many students, the staff of the Nutrition Center was eager to have a representative group of Minneapolis students rate each food separately.

Tables 25 and 26 list ratings made by various student groups for each of the hot foods regularly appearing on the menu; Tables 27 and 28 provide cold food ratings; Tables 29 and 30 give ratings for the four major beverages in the lunch.

For each item, students checked labeled boxes to indicate how much they liked, or thought they would like, each food as it was served at their school. The rating categories, as suggested by the Nutrition Center staff, were 5=Great, 4=Good, 3=So-So, 2=Bad, and 1=Awful. Students could also check a "Don't know" category; however, such responses were not used in computing average ratings or other statistics.

The same menu was used for all Minneapolis public schools, regardless of whether they provided prepack or on-site service. In schools having prepack service, the hot food items for a given day's lunch were delivered from the Nutrition Center to the school's serving area in small, individual-lunch-sized aluminum hot packs, while the cold foods were delivered in styrofoam cold packs. For student groups representing prepack schools, the hot foods average (an average of the average ratings for all hot foods) is also a summary rating for the Minneapolis hot pack. Likewise, cold foods averages based on student responses from prepack schools are summary ratings for the cold pack.

Hot foods. Table 25 presents average (mean) ratings of hot foods for all student groups. Table 26 presents a more detailed picture of the ratings, including the percent checking each rating category; however, Table 26 is based on frequent customers only, and results for 8th and 11th grades are combined.

Table 25 shows that most of the mean ratings of foods by various student groups were in the "So-So" rating range. Within the same grade level and food service type, frequent customers tended to rate the same food item slightly higher than infrequent customers. In addition, at grades 8 and 11, students in on-site schools generally rated the same food item slightly higher, on the average than students in prepack schools.

Hot foods given average ratings near 4=Good by at least one prepack student group and one on-site student group included pizza, spaghetti with meat sauce, hot dog, tri-tators (potatoes), and French fries. The hot ham and cheese sandwich in the hot pack was rated, on the average, close to "Good" by both 5th and 11th grade frequent customers.

Hot foods given average ratings near 2=Bad by all student groups included peas, mixed vegetables, and baked beans.

The hot foods averages were highest for 5th grade frequent customers (3.2), for 8th grade frequent customers in on-site schools (3.1), and for 11th grade frequent customers in on-site schools (3.1). The lowest hot foods average ratings (2.7) were made by 11th graders in prepack schools, and 8th grade infrequent customers in prepack schools.

Table 26 shows that half or more of the frequent elementary customers (all receiving prepack service) gave 5=Great or 4=Good ratings to hot ham and cheese sandwich, chuckwagon, fishwich, hot dog, pizza, tacos or taco scramble, spaghetti with meat sauce, French fries, and tri-tators.

Secondary frequent customers in prepack schools were less generous in their ratings. Half or more gave "Great" or "Good" ratings to only two hot foods: hot ham and cheese sandwich and pizza.

In on-site secondary schools, half or more of the frequent customers gave "Great" or "Good" ratings to five foods: hot dog, pizza, tacos or taco scramble, French fries, and tri-tators.

The clear favorite among currently served school lunch hot foods was pizza, which for nearly every group had the highest mean ratings, and the largest percent of "Great" ratings. Pizza served on site was apparently liked better by secondary students than prepack pizza, however. For example, 47% of the secondary frequent customers in on-site schools, but only 25% of the secondary frequent customers in prepack schools, rated the pizza "Great."

Peas, mixed vegetables, and baked beans--the same three foods given "Bad" average ratings by all student groups--were also rated "Awful" or "Bad" by three-fifths to three-fourths of the frequent customers in elementary, secondary prepack, and secondary on-site schools.

Cold foods. Table 27 gives average ratings of cold foods for all groups, while Table 28 gives rating breakdowns for frequent customers only.

Most of the cold foods received average ratings in the "So-So" range. The following foods, however, received average ratings in the "Good" range from at least one prepack group and one on-site group: Snoopy bar (has peanut butter in it), frosted brownie (chocolate), apple, orange, and pudding with topping.

The cold foods averages for the various student groups ranged from 3.0 to 3.6. The cold foods average was highest for 5th grade frequent customers.

Among the frequent customers only, half or more in elementary, secondary prepack, and secondary on-site schools gave "Great" or "Good" ratings to orange, frosted brownie, Snoopy bar, and cookie.

In addition, half or more of the elementary frequent customers gave "Great" or "Good" ratings to carrot and celery sticks, dinner roll and butter, applesauce, peach slices, pear half, mixed fruit, banana, apple, tangerine, pudding with topping, and Jello with topping. Half or more of the secondary frequent prepack customers gave "Great" or "Good" ratings to the banana. And half or more of the secondary frequent on-site customers gave these high ratings to dinner roll and butter, applesauce, peach slices, pear half, and pudding with topping.

No cold foods were given average ratings of "Bad" by more than one student group. However, apricot halves were rated "Bad" or "Awful" by 40% to 47% of the frequent-customer groups. The whole wheat bread and butter sandwich was rated "Bad" or "Awful" by about half (48%) of the frequent secondary customers in prepack schools.

Beverages. Tables 29 and 30 show that chocolate and regular milk were well liked by most students at all grade levels surveyed. The milkshake, popular among 8th and 11th graders, was not available to 5th graders. Even though 5th graders were not asked to rate the milkshake, evidence from Tables 29 and 30, and also from 5th graders nominations for new foods (see Table 32), suggests that milkshakes would be a welcome addition to the elementary prepack.

Skim milk is less well liked than white or chocolate milk by all age groups, yet nearly 30% of both elementary and secondary students rated skim milk as "Great" or "Good."

Composite Ratings of the Whole School Lunch

Cold foods served in the school lunch were slightly better liked, on the average, than the hot foods (see Tables 25-28). For each student group surveyed, the cold foods average rating was slightly, but significantly, higher than the hot foods average rating. In prepack schools, therefore, the cold pack was liked slightly better than the hot pack.

A mean rating for the whole school lunch--hot foods as well as cold foods--was computed for each student who rated at least 14 of the 17 hot food items and 16 of the 20 cold food items. (Beverage ratings were not included in this whole school lunch mean rating.) Mean ratings by individual students were then combined to derive a whole school lunch average rating for each student group.

(Individual students' means could be based on from 30 to 37 ratings of the 37 lunch foods. Each individual student mean was weighted equally when group means were formed. Some may feel that individuals' means should have been given weights from 30/37 to 37/37, corresponding to the number of foods rated.)

Table 31 shows that the average whole school lunch rating was at or near 3, or "So-So," for each student group. A great majority (two-thirds or more) of whole lunch average ratings for individuals in each student group fell in the range from 4=Good to 2=Bad. Younger (5th grade) students had slightly more favorable whole lunch average ratings than secondary students. At the secondary level, students from on-site schools had slightly higher ratings than students from prepack schools (differences significant at the 5% level).

The Amount of Food in the School Lunch

Many students did not feel they were getting enough food in the school lunch. Among frequent customers, 4 of 10 5th graders and about half of the secondary students answered, "Too little food for me," to the question, "How would you rate the amount of food in the school lunch?" Students in prepack schools did not differ appreciably from students in on-site schools in their ratings of food amount. (See Table 15 based on responses to Question 19.)

About one-third of the secondary frequent customers considered the school lunch to have "just the right amount of food" for them; 4 in 10 5th graders were satisfied with the food amount.

Very few students at any grade level rated the school lunch as having "too much food."

Infrequent customers were often unable to rate the adequacy of the food amount in the school lunch and answered, "I don't know."

Sex differences. Girls were more satisfied than boys with the amount of food in the school lunch. Table 16 shows that from one-third to nearly half of the girls at each grade level rated the school lunch as having "just the right amount" for them. At each grade level boys were twice as likely as girls to say the school lunch had "too little food" for them. Boys were more dissatisfied with food amount as grade level increased. One-half of the 5th grade boys, 6 in 10 of the 8th grade boys, and two-thirds of the 11th grade boys said the school lunch had "too little food" for them.[9]

The Cost of the School Lunch

About 40 to 50% of the students thought the school lunch cost too much. Table 17 (based on responses to Question 20) shows that about 4 of 10 frequent 5th grade customers and half or more of each of the other student groups believed the school lunch price of 55¢ for the elementary lunch and 65¢ for the secondary lunch was "too much." About 3 in 10 11th grade students in on-site schools rated the cost as "just right"; 11th graders in prepack schools were only about half as likely to rate the cost as "just right."

2. Student Consumption of School Lunches and Other Food on the Day the Survey Was Taken

Self-Reported Consumption of Breakfast and Lunch

As grade level surveyed increases, students were less likely to indicate they had eaten breakfast or lunch on the day they were surveyed (see Table 5). At all grade levels surveyed, students were more likely to indicate they had eaten lunch than breakfast. On the survey day, apparently 9 of 10 5th graders ate breakfast and 9 of 10 ate lunch. Among 8th graders, 6 of 10 ate breakfast and 8 of 10 ate lunch. Among 11th graders, only half ate breakfast and only 6 of 10 ate lunch.

Apparently, about one-fifth of the 5th graders and one-half the secondary students missed at least one of the first two meals on the survey day. Further, 6% of the 8th graders and 16% of the 11th graders indicated they missed both breakfast and lunch.

Where Did Students Eat Breakfast and Lunch on the Day of the Survey?

At all grade levels 9 of 10 students who ate breakfast, ate at home (see Table 11). Some 5th graders, and some 8th graders attending prepack schools, ate breakfast in school. Only small numbers of students ate breakfast in other locations (e.g., fast-food restaurants, en route to school, etc.)

Nearly all elementary students surveyed who ate lunch, did so in the school lunchroom or cafeteria. In one elementary school surveyed, students are in their classrooms with their teachers. Practically no students in surveyed elementary schools went home for lunch (see Table 6).

Also, 9 of 10 8th grade lunch eaters took their lunch in the school lunchroom (see Table 9).

However, at the 11th grade level, only slightly over half of those who ate lunch did so in the school lunchroom (Table 9). In prepack schools, about one-third ate their lunch somewhere else in school or on the school grounds (because of the portability of the prepack?). In on-site schools, only 13% ate their lunch somewhere else in school or on school property.

The marked drop from junior to senior high school in the proportion of students eating lunch in the cafeteria or lunchroom is also evident in the estimates of principals. Table 37 shows that principals in 11 of 12 junior highs, but only 1 of 8 senior highs, say that "all, or nearly all" their students eat in the cafeteria or lunchroom.

Even though Minneapolis Public Schools' students are allowed to go home for lunch in 4 of 10 elementary schools and 8 of 10 secondary schools (see Table 38), apparently few do so, perhaps because of the brevity of the lunch period (see Table 40 and discussion on pp. 23-24).

"Fast food" purchased outside school. About 1 in 8 of the 11th graders who ate lunch on the day of the survey indicated they ate lunch at a "fast-food" restaurant or other restaurant-type place off the school grounds (Table 9).

While only a minority of secondary students actually ate lunch in a fast-food operation or store off the school grounds, about 1 in 5 of both the 8th graders and the 11th graders who ate lunch reported buying part or all of their lunch outside school (Table 7). Apparently, then, a number of secondary students purchased food outside school which they then consumed at lunchtime in the school lunchroom or on the school grounds.

Students Who Brought a Lunch From Home

About one-third of the elementary students surveyed, and about one-fourth of the 8th and 11th graders who ate lunch, brought most or all of their lunch from home (Tables 6 and 7).

Self-Reported Consumption of School Lunches and A La Carte School Food

Among those surveyed students who ate lunch on the day of the survey, the following proportions of student groups got a whole school lunch: two-thirds of the 5th graders, two-thirds of the 8th graders in on-site schools, slightly over half (56%) of the 8th graders in prepack schools, 4 in 10 of the 11th graders in on-site schools, and one-third of the 11th graders in prepack schools (Tables 6 and 7).

Among surveyed secondary students who ate lunch on the survey day, from 6 to 7 in 10 got food or a drink from the a la carte or snack bar line in their school. Only about 1 in 5 of the surveyed secondary students indicated they "got a whole lunch, or almost a whole lunch, from the snack bar line" (see Table 7, based in part on Questions 6 and 7).

Elementary schools had no a la carte food except milk. About one-third of the surveyed 5th graders who ate lunch indicated they got milk in the lunchroom, but not a whole school lunch (Table 6).

Secondary students' consumption of a la carte food in addition to a whole school lunch. Among only those secondary students who reported getting a whole school lunch on the survey day, nearly 6 in 10 reported that they purchased additional food or drink from the a la carte or snack bar line in their school (see Table 8).

Among those same students who already had gotten a whole school lunch, 1 in 5 of the 8th graders and 1 in 4 11th graders indicated they purchased a la carte school food "equivalent, or almost equivalent, to a whole school lunch." In effect, 20-25% of the surveyed secondary school-lunch customers purchased a second lunch from the Minneapolis Public Schools.

Self-Reported Extent to Which Students Threw or Gave Food Away During Lunchtime in 1976-77

The most frequent answer for all student groups to the question, "How much of your lunch at school do you usually throw or give away?," was, "I throw or give away a little" (see Table 23).

On a 5-point scale from 1= "I eat all of my lunch," to 5= "I throw or give away all, or nearly all, of my lunch," the average waste ratings for separate groups generally ranged from 2= "I throw or give away a little," to 3= "I throw or give away about half."

The highest average self-reported waste or giving away of food occurred among frequent 8th grade customers in prepack schools; the lowest self-reported waste was among frequent 11th grade customers at on-site schools. Yet frequent and infrequent customers at the same grade level in schools with the same type of food service did not differ appreciably in their self-reported food waste. For example, regardless of whether or not they were frequent customers of the school lunches, about 1 in 5 8th graders in prepack schools reportedly threw or gave away over half of their lunch.

Students Who Did Not Eat Lunch on the Day of the Survey: Did They Forget Lunch, Ticket, or Money? Were They Hungry?

Again, among surveyed students, 5% of the 5th graders, 20% of the 8th graders, and 35% of the 11th graders apparently did not eat any lunch on the day of the survey (Table 5).

Table 10 shows that about half of the students who missed lunch also said they were hungry at lunchtime.

About 1% of the surveyed elementary students and 4% of the surveyed secondary students indicated they missed eating lunch because they forgot to bring a lunch from home; or forgot to bring money or a ticket to get a school lunch.

3. Lunchtime in the Minneapolis Public Schools: A Portrait Based on Procedures, Policies, and Principals' and Students' Perceptions

Students in the Minneapolis Public Schools have about one-half hour to eat lunch, on the average (see Table 40, based on principals' responses). In 15% of elementary schools, the maximum time a student has to eat lunch is 15-24 minutes. In three-fourths of the 82 Minneapolis regular elementary and secondary schools, the maximum eating time is exactly 30 minutes.

For the majority of students who eat in the school cafeteria or lunchroom, the size of the eating groups varies greatly. According to principals, almost all (95%) of elementary students eat in the same room with 200 or fewer students, while three-fourths of the secondary students eat in the same room with over 200 students. In 4 of 10 elementary schools the lunchroom seat 100 or fewer students. In contrast, in one-fourth of the senior highs, over 400 students eat in the cafeteria at the same time. (See Table 51.)

A Recess or Recreational Period Right After Lunch: An Incentive for Eating Fast?

In 9 of 10 Minneapolis elementary schools and half the junior highs, students who eat in school have a recess or recreational period right after lunch (Table 40). Very few elementary schools and no secondary schools have a recess before lunch. In most elementary schools and nearly all junior highs, students can leave their tables (presumably to go outside or to some other recreational area) after 15 minutes or less, or as soon as they are finished eating. In other elementary schools students are dismissed by a lunchroom aide, or wait until all at their table are finished. During cold weather, students in many schools are asked to wear their coats to lunch.

Given these circumstances, and if one assumes that the opportunity to go outside or play with friends is rewarding--then many Minneapolis elementary and junior high students may have incentives for eating fast. One might suspect that for some students, the rewards of eating lunch are pitted against the rewards of playing with friends. Some school-lunch and bag-lunch foods that would be consumed under more favorable conditions may be thrown away if a "hurry-up" atmosphere has been created.

Senior high students may also have incentives for eating lunch rapidly. Senior highs have no recesses before or after lunch. In nearly all senior highs, the lunch period is 25-30 minutes long, and students are allowed to leave

the school grounds during this period. If the activities of lunch, socializing, a walk, car "cruising," or other recreation must be packed into a 30-minute period, students may find it difficult to consume their lunch completely and in a relaxed manner.

A qualifying note. The assertion that students have incentives for eating fast is, of course, a hypothesis based on knowledge of lunchtime procedures, and on some assumptions. Students were not asked directly if the length of the lunch period or the availability of recesses caused them to eat fast. Further, lengthening the lunch period or providing a recess before lunch may create problems; e.g., decrease the time available for instruction or lengthen the school day, or require additional staff to supervise students.

Each School's Efforts to Increase Participation in the School Lunch Program and Food Consumption at Lunchtime

Principals were asked to describe their own school's efforts to increase participation and provide nutrition education. They were also asked to describe the integration of adults and students in the lunch line and lunchroom. Students were asked to rate the friendliness of lunchroom staff.

Efforts to increase participation. Table 47 shows that 4 in 10 principals indicated there had been efforts in their school during 1976-77 to improve participation in the Lunch Program. According to principals' written comments, the most common efforts were educational activities and promotion (1 in 8 schools); presumably, these would include nutrition education activities, National School Lunch Week posters, etc. Other less frequent efforts included assessing food preferences, publicizing the menu, forming a student advisory committee, and changing the menu.

Nutrition education. Apparently, in a majority of schools students are taught the nutritional value of various foods served in the Lunch Program (see Table 46, based on principals' responses to Questions 50-52). Nutrition education efforts were more common in elementary than secondary schools; 9 of 10 elementary schools and 6 of 10 secondary schools taught the value of school lunch foods.

At the time of the principals' survey, nutrition-related posters were on display in 7 of 10 elementary schools and 4 of 10 secondary schools.

Integration of adults and students in the lunch line and the lunchroom. Some principals feel that the presence of teachers in the lunch line and lunchroom with students increases student participation in the Lunch Program and reduces food waste. Table 39 shows that in only about 1 in 10 schools did

students and adults eat lunch in the same room at the same time. Half of the junior highs and senior highs maintain separate lunch lines for students and adults. In about 8 of 10 elementary schools, however, adults buying school lunch went through the line with students.

How friendly are the lunchroom staff? Most students perceive the adults who work in their lunchroom or cafeteria as at least "somewhat friendly" (see Table 22). At the 5th and 8th grade levels, frequent and infrequent customers did not differ systematically in their ratings of lunchroom staff friendliness. Among 11th graders in surveyed on-site schools, however, frequent customers rated lunchroom staff more friendly than did infrequent customers.

Procedures Followed When Students Bring No Lunch, and Have Made No Provision to Get a Lunch

When Minneapolis students have not been approved for free or reduced-price lunch, have no lunch ticket, or forget to bring a lunch from home, the schools' responses vary greatly. Such students may receive a whole lunch, a peanut butter sandwich, or, in three secondary schools, nothing. Also, the conditions that accompany the gift of food are various (see Table 42).

Principals were asked the following two questions:

> Suppose a student comes to your school with no lunch and no money to buy lunch. Furthermore, this child has not been approved as eligible for a free or reduced-price lunch. Under these circumstances, would your school--
> Give the student a whole school lunch? [Question 30]
> Give the student a peanut butter and jelly sandwich? [Question 31]

Giving the student a whole lunch. Principals could answer "Yes," "No," or "It depends" to the previous two questions. Principals checking "It depends" were asked to "Please explain." Additional open-ended responses were encouraged with the question, "Please describe any other procedures and policies your school would follow in dealing with this problem of a student who had made no provision to receive a lunch."

Table 42 suggests that in about half the schools (about 60% of elementaries and 40% of secondaries), students would be given a whole school lunch with little hassle. In about 30% of the schools, principals checked "It depends" to indicate some condition would be attached to receipt of a school lunch. Junior high principals were more likely to attach such conditions (6 of the 12 respondents)

than senior high principals (none checked "It depends," and 6 of the 8 senior high principals checked "Yes," indicating they would give the student a lunch).

Giving the student a peanut butter sandwich. Table 42 shows that in 10 of the 58 Minneapolis elementary schools, but in no secondary schools, students who have made no provision to get a lunch are given a peanut butter sandwich. In an additional 17 elementary schools (and 8 junior highs), a peanut butter sandwich might be given ("It depends"), after consideration of the student's circumstances. In short, in about half (46%) of Minneapolis elementary schools, a peanut butter sandwich is sometimes given to those students who have no lunch ticket, and have not brought a lunch. In several additional schools, apparently, such students would not be given a peanut butter sandwich, but instead would be given some similar food item (e.g., "milk and a sandwich").

Conditions for receipt of a lunch or peanut butter sandwich. Such conditions included the frequency of the problem, knowledge of the home situation, whether or not any lunches were left over, the reason given by the student, etc.

Other procedures and policies. Principals' comments suggests some variation among schools in who pays for lunches or food given to students who would otherwise have no lunch. In some schools, the cost of the lunch is charged to the Minneapolis Schools' local budget (Fund 1); in other schools, staff pay for the lunch with the understanding students will repay the loan.

Follow-up procedures when a student has made no provision for lunch include contact with the home (e.g., "have social worker follow up problem") or a talk with the student (e.g., "explain the procedure"; "probably a new student").

Students Not Presently Receiving Free or Reduced-Price Lunches Who Would Be Eligible If They Applied: Do Such Students Exist and Why?

An investigation that follows a child's not making arrangements to receive a lunch may uncover the fact that the child is eligible to receive a free or reduced-price lunch.

Except by such chance, however, most schools have no systematic way of determining whether or not any of their students, not presently receiving free or reduced-price lunches, would be eligible if they applied. Table 41 shows that principals in half of Minneapolis' elementary schools and 9 out of 12 junior highs "don't know" whether they have such potentially eligible students.

In many cases, of course, principals are aware of potentialy eligible students whose families have decided not to fill out the free and reduced-price lunch application which is sent in the fall to the home of each Minneapolis student.

Why don't the families of potentially eligible students complete an application? Among those 22 principals aware they had potentially eligible students, 10 believed that family pride and fear of a "welfare" stigma prevented parents or guardians from completing a lunch application. Apparently, these parents do not realize that information on the application form is confidential. Also, students in school who are (a) eligible for free lunch, (b) eligible for reduced-price lunch, and (c) ineligible "full-pay" customers must not be overtly labeled or treated differently from each other when they enter the cafeteria or lunchroom. Most Minneapolis Schools use tickets (no cash) and a single whole lunch line for all students to satisfy the USDA's insistence on lack of overt identification of free and reduced-price eligible students.

Of course, if participation in the Lunch Program in particular schools is largely limited to free and reduced-price eligible students (as seemed to be the case in Minneapolis senior highs), then students getting the whole school lunch will tend to be labeled "poor." A "welfare" stigma attached to mere participation in the Lunch Program may thus be a very real problem for some secondary students; or, in general, for free and reduced-price eligible students in any low-participation school.

Any Nutrition Center or school efforts successful in improving participation in the Lunch Program by full-pay customers would probably also improve participation by free and reduced-price eligible students. That is, of course, if procedures to prevent public identification of free and reduced-price eligible students are scrupulously maintained.

Supervision of Each School's Lunch Program by Staff From the Nutrition Center, and the Perceived Need for More Information Concerning Government Regulations

A great majority of schools had at least 1 visit from a Nutrition Center school lunch supervisor during 1976-77; 4 in 10 schools had at least 3 visits. A few schools had over 10 visits. At least 6 elementary schools and 1 junior high, however, had no such visits. Some senior high principals, perhaps because of the large scope of their responsibility and the large size of their school, were unaware of how many visits a supervisor had made.

Only about 1 in 5 principals perceived any need for more information concerning federal, State, and local regulations that apply to the Lunch Program. Presumably, such regulations could be interpreted to principals during visits by Nutrition Center staff.[10]

4. Students' Preferences Among Foods Not Now Served, and Their Medical and Religious Food Needs

What New Foods Did Students Suggest for Possible Inclusion in School Lunches?

Table 32 presents suggestions for new school lunch foods separately by grade level surveyed. Table 33 presents food suggestions separately for each of three racial groups: White, Black, and Native American (groups not represented in Table 33 were judged to have sample sizes too small to generate stable percentages).

In Questions 30-38 and 42, students were asked whether each of 10 foods should be served fairly often as part of the regular whole lunch, pre-pack lunch, or "combo" lunch.[11] In addition, students were asked to write in the name of one other new food that should be served fairly often.

Among the new school lunch foods specifically listed in print on the questionnaire for a student response, the most popular was ice cream, given "Yes" votes by 8 to 9 of every 10 students at each grade level. Two-thirds of the students at each grade level wanted the corn dog added to the menu. Two-thirds of the 5th and 11th graders indicated they would like to be able to make their own salad in school at lunchtime. From about 40% to 60% of the students at each grade level indicated they would like added to the whole lunch menu soup, Chinese chow mein, and "a large salad with meat, cheese, hard-cooked eggs, or other such foods on top." The highest proportion of "Yes" votes for soup was among 5th graders (57%); for chow mein, the highest proportion was among 11th graders (56%).

About one-third of students, in general, and 6 in 10 Native American students, indicated that Indian fry bread with a hamburger or hot dog inside (a food served at many powwows) should be added to the menu.

Other foods listed in print, but receiving fewer "Yes" votes, were cole slaw, Chinese fried rice, and wild rice mixed with regular rice.

Table 32 shows that the 10 most frequent write-in suggestions for new foods, to be served fairly often as part of the regular whole lunch, were (in order from most to least frequent): (a) chicken, fried chicken, or other poultry; (b) malt or milkshake (written in by 1 in 7 5th graders); (c) beef, steak, roast beef, beef sandwiches, beef stew; (d) barbecued chicken or ribs; (e) crunchy processed snack foods, such as chips, popcorn, or pretzels; (f) sandwiches and submarines; (g) lasagna; (h) soft drinks; (i) pie; and (j) cake, cupcakes.

Other new lunch foods written in by at least 1% of the total group of 1,582 respondents included various kinds of fruit and fruit juice (fresh or canned); ham, bacon, pork; fish, fried fish, shrimp, shellfish; cheese, macaroni and cheese; corn, corn on the cob; commercial snack cakes; chocolate, candy, gum; and toast.

A number of the foods nominated in writing for inclusion in the whole lunch were, of course, available in the a la carte lines of many secondary schools. For example, sandwiches, crunchy processed snack foods, commerical snack cakes, and soft drinks.

Racial differences. White, Black, and Native American students did not usually differ markedly in their acceptance of the 10 new foods listed in print on the questionnaire. Nor did they differ notably in their write-in nominations for new lunch foods. Native American students, however, less frequently than Black or White students, indicated they would like salads (Questions 38 and 42); and more often indicated they would like Indian fry bread with a hamburger or hot dog inside.

Foods given write-in nominations by a disproportionately high number of Black students included chicken, barbecued ribs, and soul food items.

Students' Self-Reported Avoidance of Certain Foods for Medical or Dental Reasons

From 12% to 22% of the students in each student group indicated they avoided certain foods because they have allergies, a weight problem, other health problems, teeth braces, etc. (see Table 34 based on Question 28).

Students indicating avoidance of foods for medical or dental reasons were then asked to list up to three such avoided foods. Among these students, nearly two-thirds of the 5th graders, 4 in 10 8th graders, and one-fourth of the 11th graders wrote in candy, gum, caramel, or other sweet and sugary items as foods they avoided.

Foods listed by older students more than younger students included fried, greasy, or high-cholesterol foods; and chocolate. Nearly 1 in 5 11th grade food avoiders listed greasy or high-cholesterol items as foods they avoided.

Students' Self-Reported Avoidance of Certain Foods Because of Religious, Family, or Personal Beliefs

Fewer than 1 in 10 students in any group listed in Table 35 indicated they avoided certain foods because of church or synagogue teachings, because they were vegetarian, or because they ate only "natural" or unprocessed foods. Foods frequently listed by these students included meat during Lent, pork and hot dogs, meat in general, sweet or sugary foods, or foods with artifical additives.

5. Suggestions for Improving the Minneapolis School Lunch Program

Student Suggestions

The last item on the questionnaire asked students to "write one suggestion for improving school lunches." About three-fourths of the student respondents took this opportunity to write suggestions and comments; over 100 distinctly different suggestions were received. Table 36 presents a full analysis of these suggestions. A briefer summary of these suggestions is contained in Table B on pp. 33 and 34.

From 15% to 35% of each respondent group, and particularly the infrequent customers, felt that general improvements in the school lunches were needed (e.g., "make lunches better," "better tasting," "more nutritious," "more appetizing," etc.)

From 15% to 28% of each respondent group in secondary prepack schools suggested, in effect, that prepack lunches from the Nutrition Center should not be served (e.g., "get rid of prepacks," "cook foods in school on the same day they are served," "bring back the old lunches," "buy lunches from a different lunch company," etc.).

From 5% to 10% of the students in each respondent group suggested that greater choice should be offered in the school lunch (e.g., "a choice of hot and cold packs," "two or more different whole lunches," "make sure the advertised lunch menu is available," etc.).

Reducing the price of the school lunch, or providing more food for the same price was a suggestion written by 3% - 17% of each respondent group, especially secondary students in on-site schools.

At least 10% of the students in one or more respondent groups: (a) made specific suggestions for improved cooking and serving (e.g., do not "overcook" or "undercook" food; serve food at appropriate temperature, etc.); (b) suggested efforts to improve taste or appearance; and (c) suggested improved food service operation and policies.

About 5% of the frequent customers in secondary prepack schools suggested efforts to reduce or eliminate grease in school lunch foods (e.g., "less greasy hamburgers," "grease settles in the bottom of the prepack tray," etc.).

Other main suggestion categories included considering student food preferences when planning menus (e.g., serve "fast-food" type foods; make appropriate seasonal variations; etc.); and improving the quality of ingredients (e.g., "don't use soy filler"; better meats, fruits, or vegetables; "don't

Table B

Summary of Written Suggestions by Students for Improving School Lunches

Item 47-53--A, B

Questionnaire item: "In the space below, please write one suggestion for improving school lunches:"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
Suggestions for improved cooking and serving										
Make general improvements in the school lunches (e.g., make lunches better, better tasting, more nutritious, more appetizing; etc.)[a]	15	20	26	33	23	35	27	32	20	17
Specific suggestions (e.g., cook food appropriately; serve food at appropriate temperature, etc.	12	9	10	14	14	6	9	5	11	8
Suggestions concerning prepack v. on-site service, and packaging										
Student, in effect, suggested that prepack lunches from the Nutrition Center should not be served in school (e.g., get rid of prepacks; cook foods in school on the same day they are served; bring back the old lunches; don't start serving prepacks in my school; etc.)[a]	8	12	25	22	2	3	15	28	5	4
Specific suggestions (e.g., use real dishes and silverware, not plastic; use trays; improve packaging so wet and dry foods don't make contact, etc.)	4	3	3	6	0	0	2	6	1	0
Improve appearance and taste of school lunch foods	2	3	4	10	2	12	7	13	3	5
Reduce or eliminate grease in school lunch foods (e.g., less greasy hamburgers, grease settles in the bottom of the pre-pack tray, etc.)	3	3	6	2	1	1	5	2	0	1
Offer greater choice (e.g., in the school lunch; a choice of hot and cold packs; 2 or more different whole lunches; more variety in a la carte foods; make sure advertised lunch menu is available, etc.)	7	8	6	8	8	5	7	8	10	6

Note. This table summarizes Table 36 in the Appendix. Percents in columns need not total 100 (see general Note for Table 36).

[a]See Foo note a and general Note for Table 36.

(Table continued on following page.)

Table B (continued)

Item 47-53--A, B

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Suggestions concerning cost and value (e.g., increase portion size; reduce cost; serve more food for the same school-lunch price; specific items (hamburgers) too expensive; etc.)	4	3	5	4	12	10	3	5	17	9
Consider student food preferences when planning menus (e.g., serve "fast-food" type foods; make appropriate seasonal variations, etc.)	4	5	1	0	2	1	5	1	1	4
Improve quality of ingredients										
Hamburgers (meat patties), or dishes made with hamburger, need improvement (e.g., improve taste of hamburgers, don't use soy filler, less greasy hamburgers, etc.)[a]	4	2	4	6	5	2	3	5	5	5
Specific suggestions (e.g., better meats, fruits, vegetables; fresher, softer baked goods; don't serve cut pieces of fresh fruit; etc.)	4	4	4	9	6	7	6	5	5	6
Improve food service operation and policies (e.g., improve staff quality; serve students faster; improve cleanliness and hygiene; change various policies; etc.)	5	5	8	4	6	18	4	3	2	11
Improve other specific foods, or change general menu emphases (e.g., serve diet foods; serve fewer vegetables; get rid of specific named foods; etc.)	4	3	0	2	4	1	4	1	5	3
General evaluative comments (e.g., good, bad, etc.)	3	2	6	5	3	2	2	6	5	5
Miscellaneous comments and suggestions (e.g., "Don't know"; irrelevant or inappropriate comments; etc.)	13	12	7	10	8	8	5	8	6	11
All other suggestions	1	1	0	2	1	1	2	2	0	2
No written answer	27	29	30	18	27	19	32	24	22	24

Note. This table summarizes Table 36 in the Appendix. Percents in columns need not total 100 (see general Note for Table 36).

[a]See Footnote a and general Note for Table 36.

serve cut pieces of apples or other fruit").

Students' and Principals' Opinions Concerning the Desirability of Having a Choice of School Lunches

Students and principals were asked, "Should your school give students a choice of two or more different lunches each day?"

About 9 of 10 respondents in each student group answered "Yes" to this question (see Table 24).

Principals in secondary schools were also extremely favorable toward greater choice. Principals in elementary schools were evenly divided on this issue; in short, about half the elementary principals disagreed with their own students on whether a lunch choice should be offered. (See Table 48.)

Principals' Written Suggestions for Increasing Participation and Decreasing Food Waste or Giveaway in the School Lunch Program

The last two items on the principals' questionnaire asked for one written suggestion "for increasing the number of students at your school who get a whole school lunch," and one suggestion "for decreasing the amount of school lunch food that your students throw or give away."

Improving the overall quality of lunches (e.g., their taste; "make the lunches better") was a suggestion offered by 1 in 5 principals both for improving participation and for reducing food waste or giveaway.

Other suggestions for increasing participation included: serving popular foods and basing menu selection on student surveys (11%); decreasing price (11%); and giving everyone a free lunch (9%).

Other suggestions for decreasing food waste or giveaway included: offering students more choice in food or quantity (21% of principals); abandoning disliked menu items (15%); and improving the appearance or appeal of the school lunches (10%).

Table 47 shows that in 8 elementary schools another method for reducing food waste is used--students are praised or rewarded for clean plates.

Lunchroom Equipment: Principals' Perceptions of Current Adequacies and Needs

Table 45 shows that few principals report equipment needs. Improved refrigeration or freezing equipment was reported as needed in 6 elementary schools. New tables or chairs were needed in 5 schools. Principals in 3 schools wanted a larger or newer lunchroom.

DISCUSSION AND RECOMMENDATIONS

The purposes of the student and principal surveys are to suggest ways of increasing student participation and reducing food waste in the Minneapolis School Lunch Program. These purposes are also part of the Superintendent's charge to the Citywide Committee on Nutrition. This committee requested, and helped plan, the present surveys.

Before discussing the major findings of the surveys it may be a good idea to put the survey results into perspective.

This survey information is the only large scale, and we think representative, sample of consumer opinions about the Minneapolis School Lunch Program since the opening of the Nutrition Center and the first implementation of prepack service. Opinions concerning the May and June, 1977, Minneapolis School Lunch Program--held by principals and by students at grades 5, 8, and 11--seem fairly represented.

Readers should be alert to the possibility that consumer opinions may vary for different times of the year and for different age and grade levels. In fact, the present survey suggests that opinions are strongly related to age. Therefore, one should take great care in generalizing these results to different times of the year, to different years, and to different age and grade levels.

In addition to the present survey results, any comprehensive plan for improving the Minneapolis School Lunch Program for the benefit of Minneapolis students should also consider:

1. Cost implications of any recommended improvements.

2. Improvements in the Lunch Program that have already been made by Nutrition Center staff since the May and June, 1977, survey.

3. The 1977 report of findings and recommendations from a 1976-77 management and technical assistance effort conducted by the Minnesota Department of Education, Child Nutrition Section, and the United States Department of Agriculture. Also available for review should be the replies to this report the Minneapolis Public Schools was required to write.

4. The experience of other large school systems that have "super kitchens" like the Nutrition Center, designed to produce prepack meals for distribution to all schools in a large geographic area.

5. Data from health services personnel and nutritionists concerning the "state of the health" of Minneapolis school children; and how the health and nutrition of students in Minneapolis (a) varies from area to area within the city and (b) compares with that of students in other comparable cities.

6. Any research or policy reports on the National School Lunch Program that may be available from the United States Department of Agriculture or the General Accounting Office. Such reports might contain data on participation and food waste, based on a national sample of school districts, against which we could compare corresponding Minneapolis data.

A Summary of Major Findings Relevant to Improving Student Participation and Reducing Food Waste or Food Giveaway in the Minneapolis School Lunch Program

Participation

Participation citywide. Student participation in the Lunch Program ranged from 18% among senior high students to 61% among elementary students. On an average day during a period midway through the 1976-77 school year, the Lunch Program served a whole lunch to an estimated 44% (18,800) of the students attending regular Minneapolis public schools. (Kindergartners, who did not eat lunch in school, are excluded from these statistics.)

A minority of the whole lunches served daily were purchased at the full price. In fact, about two-thirds (65%) of the whole school lunches served daily were served to students eligible for free and reduced-price lunches; apparently, about one-third (35%) were purchased at the full price. On an average day, only about three-fourths (73%) of the students eligible for free and reduced-price lunches actually got a whole school lunch.

Because of the relatively low, constant proportion of students at each school who purchased whole lunches at the full price, it was possible to predict a school's percent participation in the Lunch Program very well from knowledge of the percent of students at that school eligible for free or reduced-price lunches. Among Minneapolis schools, as the percent eligible for free or reduced-price lunches went up, the percent participation went up.

Participation among surveyed students. Consistent with the Citywide participation statistics, participation among surveyed students decreased as grade level increased. Nearly three-fourths of the 5th graders, slightly over half of the 8th graders, but only about one in five 11th graders indicated they got a whole lunch in school every day or nearly ever day. About half of the 11th graders in both prepack and on-site schools indicated they never got a school lunch.

Participation on the day of the survey. In the afternoon of the day they completed their questionnaire, 9 of 10 5th graders, 8 of 10 8th graders, but only 6 of 10 11th graders answered "Yes" to "Did you eat any lunch today?" Among only these students who ate some lunch, about two-thirds of the 5th graders, about 6 in 10 8th graders, and about 4 in 10 11th graders got a whole school lunch.

Of the 11th graders who ate lunch on the day of the survey, about 12% indicated they ate at a "fast-food" operation or restaurant off the school grounds.

Again, a number of surveyed secondary students missed lunch, but even more missed breakfast. Among 11th graders, for example, about half missed breakfast and about 1 in 6 missed both breakfast and lunch.

Participation summary. Taken together, the various participation results suggest room for improvement in participation by students in the Lunch Program. The Minneapolis Public Schools should seek improved participation (a) so that more lunches are sold to full-pay customers; (b) so that more students currently eligible for free and reduced-price lunches actually get a whole lunch; (c) so that fewer high school students leave the school grounds to buy food at "fast-food" restaurants; and (d) so that fewer secondary students skip lunch altogether.

School efforts to increase participation in the Lunch Program. Offering secondary students a choice of two different whole lunches each day (in prepack schools the second choice is often the "combo" prepack that includes a milkshake) is an attempt to increase participation in the lunch program. About 9 of 10 students favor having such a choice, including elementary students who do not currently have such a choice.

Only 4 in 10 principals indicated any efforts in their schools (other than offering a lunch choice) to increase Lunch Program participation. Such efforts included posters, nutrition education, forming student advisory committees, changing the menu, and publicizing the menu.

Student Ratings of the School Lunch

Among frequent customers at each grade level surveyed, from 4 to 5 out of 10 answered "Fair" to the question, "How good do the school lunches usually taste?" The average taste ratings, on a 5 point scale from 1 = Very poor to 5 = Very good, were in the range from "Poor" to "Fair."

In secondary schools, where both prepack and on-site food services existed, students in on-site schools rated lunch taste significantly higher, on the average, than students in prepack schools.

Likewise, secondary students in on-site schools rated the appearance of the lunches higher than students in prepack schools.

The highest average appearance rating by any respondent group was about 3 = Fair, for 11th grade frequent customers in on-site schools.

In general, the highest average taste and appearance ratings were "Fair"; and were made by 5th grade frequent customers, and secondary frequent customers in on-site schools.

General food qualities. One perceived school lunch problems at all schools, regardless of grade level or type of service, was vegetables that were too soft or mushy.

Food quality problems, observed particularly in the prepack lunch by many students, were foods that were too dry or too hard, and grease. About 1 in 20 frequent customers in secondary prepack schools wrote the suggestion that grease in school lunch foods should be reduced or eliminated (e.g., "less greasy hamburgers," "grease settles in the bottom of the prepack tray," etc.).

Popular foods currently served in the school lunch. When students were asked to rate each currently served school lunch food on the scale 5 = Great, 4 = Good, 3 = So-So, 2 = Bad, and 1 = Awful--half or more of the students in at least one of the 10 groups of student respondents* gave "Great" or "Good" ratings to the following hot foods: pizza, hot ham and cheese sandwich, chuckwagon, hot dog, fishwich, tacos or taco scramble, spaghetti with meat sauce, French fries, and tri-tators.

The clear favorite among currently served school lunch hot foods was pizza.

Conspicuously absent from this list of favorite school lunch foods is the hamburger (called "meat pattie in a bun"). For each respondent group, the average rating, and the most common rating, for the school lunch hamburger was 3 or "So-So." On the last item of the questionnaire, which asked for a suggestion to improve school lunches, a number of students wrote objections to grease and soy filler in the hamburgers.

The following cold foods received "Great" or "Good" ratings by half or more of the students in at least one respondent group: orange, frosted brownie, Snoopy bar (has peanut butter in it), cookie, carrot and celery sticks, dinner roll and butter, applesauce, peach slices, pear half, mixed fruit, banana, apple, tangerine, pudding with topping, and Jello with topping.

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* For many analyses, students were grouped separately by grade level, type of food service in their school, and the frequency with which they got a whole school lunch (once a week or more v. less than once a week).

Chocolate and regular milk were well liked by most students at all grade levels. The milkshake, popular among 8th and 11th graders, was not available to 5th graders. Survey evidence suggests, however, that the milkshake would be highly acceptable to 5th graders.

Currently served school lunch foods disliked (given 2 or "Bad" average ratings) by all student groups were peas, mixed vegetables, and baked beans. Apricot halves, and whole wheat bread and butter sandwich, were given average ratings near "Bad" by two respondent groups.

Composite whole lunch ratings, based on ratings of individual foods. When, for each student, an average rating for the 17 currently served hot food items was computed and compared with the average rating for the 20 cold food items, it was found that the cold foods were slightly better liked than the hot foods. In prepack schools, therefore, the cold pack was slightly better liked than the hot pack.

The average whole school lunch rating, computed by adding the hot food average and cold food average, was at or near 3 or "So-So" for each student group. Younger (5th grade)students had slightly, but significantly, more favorable whole lunch ratings than secondary students. At the secondary level, students from on-site schools had slightly higher ratings than students from prepack schools.

In short, whether based on a single direct question about taste or a composite rating of school lunch foods, the average student ratings of the Minneapolis school lunch were in the "Fair" or "So-So" range.

The Amount of Food in the School Lunch

Satisfaction with the amount of food in the school lunch was related to age and sex of the respondents. At each grade level surveyed, boys were twice as likely as girls to say the school lunch had "too little food" for them. Furthermore, boys dissatisfaction with amount increased with grade level. One-half of the 5th grade boys, 6 in 10 8th grade boys, and two-thirds of the 11th grade boys said the school lunch had "too little food" for them.

The dissatisfaction of many older students with the amount of food in the school lunch is apparent in their consumption of a la carte food in addition to a whole school lunch. Amont those secondary students who reported getting a whole school lunch on the day of the survey, nearly 6 in 10 reported that they purchased additional food or drink from the a la carte or snack bar line in their school. Furthermore, 20-25% of these surveyed secondary-school

whole lunch customers indicated that they ended up purchasing a la carte food "equivalent, or almost equivalent" to a second whole lunch.

The amount of food in the whole school lunch is clearly not sufficient for many secondary students, particularly boys, according to their reports.

Food Waste and Giveaway

The most frequent single answer for all student groups to the question, "How much of your lunch at school do you usually throw or give away?," was, "I throw or give away a little." Except for 11th graders, however, proportions of one-fifth to one-half of each respondent group indicated they usually throw or give away half or more of their lunch. Waste and giveaway of school lunch food and food brought from home appear to be a problem at lunchtime in Minneapolis schools.

On a 5-point scale from 1 = "I eat all of my lunch," to 5 = "I throw or give away all, or nearly all, of my lunch," the average waste ratings for separate groups generally ranged from 2 ("I throw or give away a little") to 3 ("I throw or give away about half").

The highest average self-reported waste or giving away of food occurred among frequent 8th grader customers in prepack schools; the lowest self-reported disposal of food was among frequent 11th grade customers at on-site schools. Yet frequent and infrequent customers at the same grade level in schools with the same type of food service did not differ appreciably in their self-reported food waste. For example, regardless of whether or not they were frequent customers of the school lunches, about 1 in 5 8th graders in prepack schools reportedly threw or gave away over half of their lunch.

The possible effect of school lunchtime policies and procedures on food waste. Survey responses of principals suggest that in nearly all elementary schools and in most junior highs, students may have incentives for rapid eating. In these schools students have a recess or recreational period right after lunch; and furthermore they can get up and leave their lunchroom tables after they have finished eating--ordinarily, in 15 minutes or less. In addition, some schools reportedly require students to wear coats to lunch. In effect, in many schools the rewards of eating may be pitted against the rewards of playing with friends. Some school-lunch and bag-lunch foods that would be consumed under more relaxed, unhurried conditions may be thrown away if a "hurry-up" atmosphere has been created in the school lunchroom.

In over 90% of Minneapolis schools, the maximum allowable eating time is 30 minutes or less. Some students may be unable to go through a line and consume an entire lunch during this period. Among senior high students, many of whom leave the school grounds at lunchtime or eat outside the cafeteria, a 30-minute lunch period may be an incentive for fast eating (or skipping lunch).

School efforts to reduce food waste. Apparently, in at least 14% of elementary schools, students are praised or rewarded for clean plates. In 16% of elementary schools (but no secondary schools), a midday recess or recreational period is scheduled before lunch, so that recess cannot be a reward for rapid eating.

In senior highs, new "offer v. serve" federal regulations allow lunch customers some freedom to select only those foods they intend to eat.

Unlike elementary students, secondary students usually have a choice between two different lunches. An overwhelming majority of students felt two or more different lunches should be offered each day. Offering students a choice attempts not only to increase participation, but also to reduce waste.

Procedures Followed When Students Bring No Lunch, and Have Made No Provision to Receive a Lunch

Principals' comments suggest variation among schools in who pays for food given to students who would otherwise have no lunch. In some schools, the local budget covers such meals; in others, staff in effect loan the money to students. At present, no School Board policies or administrative regulations cover the situation in which a student has made no provision to receive a lunch.

In about half the Minneapolis schools, students who bring no lunch, no money, or no free lunch approval would nevertheless be given a lunch with little hassle. In about half the Minneapolis elementary schools, such students might well be given a peanut butter sandwich (and often milk); and in 10 of these elementary schools they would almost certainly get a peanut butter sandwich.

Students' Suggestions for New Foods To Be Added to the Regular Whole Lunch Menu

Among the 10 new lunch foods students were specifically asked to rate, 40% or more of the students at each grade level indicated they would like ice cream, corn dog, salad bar (making "your own salad in school at lunchtime"), soup, chow mein, and "a large salad with meat, cheese, hard-cooked eggs, or other such foods on top."

The 10 most popular write-in nominations for new lunch foods were chicken, malt or milkshake (among 5th graders), beef, barbecued chicken or ribs, crunchy processed snack foods (e.g., chips, popcorn, pretzels, etc.), sandwiches and submarines, lasagna, soft drinks, pie, and cake or cupcakes.

Written Suggestions for Improving the Lunch Program

Students' suggestions. About three-fourths of surveyed students took the opportunity to "write one suggestion for improving school lunches." Over 100 distinctly different suggestions were received; many were not adequately covered by items already on the questionnaire.

For example, 15% - 35% of each respondent group, and particularly the infrequent customers, suggested general lunch improvements (e.g., "make lunches better," "better tasting," "more nutritious," "more appetizing," etc.).

From 15% to 28% of each group in secondary prepack schools suggested, in effect, that prepack lunches from the Nutrition Center should not be served (e.g., "get rid of prepacks," "cook foods in school on the same day they are served," "bring back the old lunches," "buy lunches from a different lunch company," etc.)

Reducing lunch price or providing more food for the same price was suggested by 3% - 17% of each group, especially secondary students in on-site school.

At least 10% of the students in one or more groups suggested improved cooking and serving, improved taste or appearance, and improved food service operation and policies. Other suggestion categories included considering student food preferences when planning menus, and improving the quality of ingredients.

Principals' suggestions. Principals also had the opportunity to write suggestions for increasing participation and reducing waste. About 20% suggested improving the overall quality of lunches (e.g., their taste; "make the lunches better").

Other suggestions made by about 10-20% of the principals included: offering more choice in food or quantity; abandoning disliked menu items; improving lunch appearance or appeal; serving popular foods and basing menus on student surveys; decreasing price; and giving everyone a free lunch.

Recommendations

The survey results and Nutrition Center statistical data presented in this report suggest there may be opportunities to improve the quality of the Minneapolis School Lunch Program in the areas of (a) student participation; (b) food quality and menu planning; (c) the quantity of food served per student; (d) food waste and giveaway (of both school lunch food and food brought from home); (e) school policies concerning the length of the lunch period and the placement of a recess before v. after lunch; (f) guidelines concerning how to handle students who have made no provision to receive a lunch.

The Citywide Committee on Nutrition, Nutrition Center staff, and others responsible for the School Lunch Program may wish to consider the following recommendations as available steps toward improved quality, improved participation, and reduced food waste in the Minneapolis Lunch Program.

Recommendations Based on the Survey Data

Interpretation of the student survey data would be aided by comparative opinion data--both from Minneapolis students at other points in time and from students in other school systems. For example, what does it really mean when a student's average rating of all hot and cold school lunch foods is "So-So"? Is this a positive or a negative response to the lunch program? We would probably describe this result as indicating lukewarm or average or moderate reaction to the Program. However, we do not know how responsive student food ratings are to changes or variations in the quality or type of food service. Perhaps "So-So" reactions are typical among customers of any large, institutional food service. (Yet surveyed secondary students--some of whom had prepack service while others had on-site service--showed small but consistent preferences for food served on-site over prepackaged food.)

The following recommendations based on the survey data are therefore offered cautiously:

1. Review the present Minneapolis school lunch menu offerings against the student survey results presented in this report.

Generally well liked foods should be retained as part of the regular menu cycle. Generally disliked foods should be improved, or considered for removal from the menu. Students' ratings of specific foods (a feature of the survey requested by the Nutrition Center), along with student suggestions, could guide improvement of many food items. For example, students made suggestions (concerning soy filler, grease, dry buns) that seem to explain their lukewarm ratings of the school lunch hamburger. In fact, the Nutrition Center has already used these suggestions to improve the 1977-78 hamburger. Some foods not now served were highly rated by students, or were nominated for future menus. These suggestions for new foods should be considered.

2. If cost factors permit, consider offering a choice of two or more different lunches to elementary students. (Secondary students already have such a choice).

3. If cost factors permit, consider offering students a choice in the quantity of food served, as well as a choice among different foods.

In general, surveyed secondary students, especially boys, expressed a desire for larger lunches. Some students, of course, desire smaller portions or low-calorie foods. Offering students a choice in quantity and calories may be possible under the

new "offer v. serve" federal regulations for secondary-school lunch programs. In 1977-78 Nutrition Center implementation of "offer v. serve" included making a salad bar available to whole lunch customers in secondary schools.

4. Consider the need to change certain lunchtime school procedures that may provide incentives for rapid eating.

Incentives for rapid eating (a probable cause of food waste) might be reduced by (a) having a midday recess or recreational period before, not after, lunch, (b) increasing the length of the lunch period, or (c) requiring students to stay in the lunchroom somewhat longer than the customary 15 minutes. Other possible "hurry up" practices include holding all students at a table until the slowest eaters have finished, and requiring students to wear coats to the lunchroom.

Of course, changes in lunchtime procedures may create, as well as solve, problems. A longer lunch period or a recess before lunch may cut into instructional time or require additional staff to supervise students.

5. Consider establishing policies and regulations to cover the situation in which a student has brought no lunch, and has made no provision to receive a lunch.

6. Consider the possibility of offering a breakfast program at the secondary level on a trial basis.

Large numbers of secondary students skip breakfast. Does a conscious choice or lack of choice lead to this situation? Would offering breakfast at the junior high or high school level solve this problem? Or are high school students simply following the lead of their parents, many of whom also skip breakfast?

Additional Recommendations

While conducting the survey, the author encountered persons, documents, and ideas that suggested additional recommendations. Readers should note, however, that the following recommendations are not based directly on survey findings.

1. Review recommendations of a recent government study of the Minneapolis Lunch Program (conducted by the Minnesota Department of Education and the USDA).

Specific plans (including timetables) should be developed to implement each recommendation judged to be valid.

2. Encourage consultation among Minneapolis Nutrition Center staff and staffs of other prepack food services in large school districts.

Through site visits or a "conference of the 'super kitchens,'" the Nutrition Center and these other school food services could offer mutual assistance in improving prepack school lunch programs. Discussion topics might include participation, waste, menus, recipes, equipment, packaging, delivery, management, staff development, and marketing.

3. Use available State and national data to determine the relative seriousness of Minneapolis' student participation and food waste problems.

4. Encourage and expand the Nutrition Center's current efforts to work with student school-lunch advisory committees and other groups of concerned students.

Suggestions for Further Research

This study has both answered and raised questions. One unanswered question is what can be expected of consumer opinions concerning a food service program. Given the variety of food preferences, will most students in any lunch program feel the food is "Great" or "Good"? The following are some recommendations which may provide both a broader context for the present results and also answers to some remaining questions:

1. Repeat the present type of survey from time to time.

Student acceptance of the Lunch Program--measured by participation, survey attitudes, and food waste--should be assessed on a regular basis, to determine whether changes in the Lunch Program are having the desired effect.

Also, survey results would have more meaning if data were gathered for different years, or for different times of the year.

2. Other large school districts, comparable to Minneapolis, could be encouraged to conduct the present type of survey simultaneously with any Minneapolis School Lunch Program survey.

3. Use future studies to address questions not answered in the present survey.

For example, do students receiving free and reduced-price lunches consume the same proportion of their lunch as do students who purchase their own lunch?

Separate questions should be used to estimate the proportion of school lunch food that is thrown away v. given away v. traded. Observational studies of eating behavior and waste might be conducted.

Also, why do students skip breakfast or lunch? Is it a lack of funds? Is it a personal choice? What should be done?

NOTES

1. As of September 29, 1977, the membership of the Citywide Committee on Nutrition was as follows: (a) Parents--Sandy Bergum, Lois Thompson, Ellen Luepker (alternate), Mary Ann McDonald, Lorraine Lindahl, Leona Dayon (alternate), Lynne Garnett, Madge Hanson. (b) Teachers--Ellen Taylor, Kenwood Elementary; Laurel Hinze, Lincoln Intermediate; Ron Dollins, Phillips Junior High; George Schell, South High. (c) Principals--Yngve Magnuson, Folwell Junior High; George McDonough, Bethune Primary; Dean Berntsen, West High. (d) Students--had not been designated. (e) Others--Carol Lind, Board of Education member; Joan Wilkosz, Home Economics Consultant; James Kenney, Assistant Director for Health Services; Shirley Brown, Nutrition Educator; Mable Melby, Curriculum Generalist; Gary Krimmel, Nutrition Center Director. The Committee was chaired by Bill Phillips, Director of Curriculum Services.

2. Funds for this survey were provided from the local budget of the Research and Evaluation Department, and by $3,648 transferred to the Research and Evaluation budget from the budget of the Office of Instruction. Staff for this study included, from the Research and Evaluation Department, the present author, who is a research psychologist, a research assistant, and clerical support staff. In addition, a part-time research assistant was employed under contract during May and June, 1977.

3. Raymond G. Arveson. Superintendent's Charge to the Citywide Committee on Nutrition, October 13, 1976.

4. This report contains findings and recommendations concerning the financial management, administration, supervision, staffing, quality control, menus, and recipe planning for Minneapolis Schools' food services programs. The report was based on visits by government representatives to both (a) the Nutrition Center, which is the administrative headquarters and primary food preparation Center for Minneapolis Schools' food services programs; and (b) nearly every Minneapolis Schools' site that serves food.

5. This average daily attendance estimate is based on the actual Minneapolis Public Schools' average daily attendance (excluding kindergarten) of 42,461 during the period September 8 to October 8, 1976.

6. The equation $Y = .67 X + 29.2$, where Y is a school's percent participation and X is a school's percent eligible for free or reduced-price

lunches, is the equation for the line of best fit in Figure 1. Using this equation we can predict participation in an elementary school with almost perfect accuracy.

7. Using the definitions of Note 6, the corresponding equation for secondary schools is $Y = .64 X + 11.7$. Knowledge of percent eligible for free and reduced-price lunches allows us to reduce by half ($r^2 = .49$) our error in predicting percent participation without such knowledge.

8. However, in 2 of 12 schools with 5th graders surveyed, in 3 of 7 schools with 8th graders surveyed, and 4 of 7 schools with 11th graders surveyed, the questionnaires had to be given before lunch. Questions on the first page of the questionnaire then had to be reworded in the verbal instructions to students. For example, the question, "Did you eat any lunch today?" became "Are you going to eat any lunch today?" Likewise, students were asked to read the question, "Did you get a whole school lunch?" (elementary questionnaire) as "Are you going to get a whole school lunch?" Other "today's lunch" questions were reworded similarly. Responses of students who took the questionnaire before lunch did not differ from those of students taking the questionnaire after lunch. Available from the author on request are results of "today's lunch" questions based only on the responses of students taking the questionnaire after lunch.

9. The greater dissatisfaction of boys v. girls with the amount of food in the lunch was apparently not due to any systematic "social desirability" response bias; i.e., that would occur if girls generally rated all aspects of the school lunch more favorably than boys. On the contrary, Table 13 shows that girls differed little from boys in their ratings of the overall taste of the school lunch.

10. Yet more information concerning regulations and more supervisory visits by Nutrition Center staff would seem useful, if principals are actively concerned with the success of their building lunch program: (a) To clarify acceptability of various procedures to be used when a child has made no provision to receive a lunch, including whether or not the student needs to repay the cost of the lunch (see previous discussion of Table 42). (b) To suggest available means of increasing participation in the Lunch Program, including acceptable means of recruiting lunch applications from families of students potentially eligible for

free and reduced-price lunches (see previous discussion of Table 41). (c) To assist senior highs in implementing the new "offer v. serve" federal regulations, which give students some freedom to select only those parts of the "Type A" lunch they intend to eat. These "offer v. serve" regulations are designed to reduce waste, and to allow combining the a la carte and whole lunch line. In Minneapolis high schools, an " offer v. serve" program was not implemented until the second half of the 1976-77 school year; and may still not be fully developed in some schools.

"Offer v. serve" regulations were discussed as early as June, 1976, at a meeting of the Minneapolis Public Schools Food Services Principals' Advisory Committee (minutes of June 3 meeting). The recently completed management and technical assistance report (Minnesota Department of Education, Child Nutrition Section, & United States Department of Agriculture) implies that "offer v. serve" had not been implemented as of January, 1977 (p. 16).

Under "offer v. serve," a school that wishes federal reimbursement and food commodities for its whole school lunches must offer students a whole "Type A" lunch; that is, a lunch that includes (a) 2 oz. of lean meat, fish, poultry, or meat substitute, (b) three-fourths cup of vegetables and/or fruits, cooked or raw, (c) 1 slice of whole grain or enriched bread, (d) 1 tsp. butter or fortified margarine, and (e) 8 oz. of whole milk (see article by Anderson). In elementary and junior high schools, students who buy or who are given a whole lunch must take the entire Type A meal away from the serving area. Under "offer v. serve," however, senior high students only need take (be served) only 3 of the 5 Type A components.

11. The "combo" lunch, served in secondary prepack schools, consisted of a hot pack, a cold pack, and a milkshake. During the survey period in spring, 1977, the "combo" lunch was an alternative whole lunch to the regular prepack lunch. Only the menu for the regular whole lunch, not the "combo," was published in Minneapolis newspaper.

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APPENDIX

Questionnaires

Minneapolis Public Schools
Citywide Committee on Nutrition
and
Research and Evaluation Department

SCHOOL LUNCH QUESTIONNAIRE

Your answers to this questionnaire will be used to improve the lunches that are served at your school.

(1) How often do you get a whole lunch at school?
(Mark a check in one of the blanks below to show your answer)

_____1 Every day I'm in school
_____2 Nearly every day
_____3 At least once a week
_____4 At least once a month
_____5 Never

(2) Who decides whether or not you will get a lunch at school?
(Check one)

_____1 My parents (or guardians) decide whether or not I will get a school lunch
_____2 Both I and my parents decide whether or not I will get a school lunch
_____3 I decide whether or not I will get a school lunch
_____4 Someone else decides. Please explain:

_____

(3) Did you eat any lunch today?

_____1 Yes _____2 No

If you answered "Yes," please answer each of these questions below:

TODAY--

(4) Did you get a whole school lunch?

_____1 Yes
_____2 No

(5) Did you bring a lunch from home?

_____1 Yes
_____2 No

(6) Did you get milk in the lunchroom, but not a whole school lunch?

_____1 Yes
_____2 No

(7) Did you go home at lunch time?

_____1 Yes
_____2 No

If you answered "No," please answer each of these questions below:

TODAY--

(10) Were you hungry at lunch time?

_____1 Yes
_____2 No

(11) Did you forget to bring a lunch from home?

_____1 Yes
_____2 No

(12) Did you forget to bring money or a ticket to get a whole school lunch?

_____1 Yes
_____2 No

(13) Did you go home at lunch time?

_____1 Yes
_____2 No

(Now answer the questions below)

TODAY--

(15) Did you eat any breakfast?

_____1 Yes
_____2 No

(16) Where did you eat breakfast?
(Check one)

_____1 At home
_____2 At school
_____3 At another place. Please name the place: _____
_____4 I did not eat any breakfast today

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(17) How good do the school lunches usually taste? (Check one)

_____1 Very good
_____2 Good
_____3 Fair
_____4 Poor
_____5 Very poor
_____6 I don't know

(18) How good do the school lunches usually look? (Check one)

_____1 Very good
_____2 Good
_____3 Fair
_____4 Poor
_____5 Very poor
_____6 I don't know

(19) How would you rate the amount of food in the school lunch? (Check one)

_____1 Too much food for me
_____2 Just the right amount of food for me
_____3 Too little food for me
_____4 I don't know

(20) How would you rate the cost of the school lunch for those who must pay the regular cash price of 55¢ for it? (Check one)

_____1 Costs too much
_____2 Cost is just right
_____3 Costs too little
_____4 I don't know

(21) How often do the school lunches contain foods that are supposed to be hot, but instead are too cool or frozen? (Check one)

_____1 Every day, or nearly every day
_____2 Sometimes
_____3 Hardly ever
_____4 Never
_____5 I don't know

(22) How often do the school lunches contain foods that are supposed to be cold, but instead are too warm? (Check one)

_____1 Every day, or nearly every day
_____2 Sometimes
_____3 Hardly ever
_____4 Never
_____5 I don't know

(23) How often do the school lunches contain foods that are too dry or too hard? (Check one)

_____1 Every day, or nearly every day
_____2 Sometimes
_____3 Hardly ever
_____4 Never
_____5 I don't know

(24) How often do the school lunches contain vegetables that are too soft or mushy? (Check one)

_____1 Every day, or nearly every day
_____2 Sometimes
_____3 Hardly ever
_____4 Never
_____5 I don't know

(25) How friendly are most adults who work in the lunchroom or cafeteria at your school? (Check one)

_____1 Very friendly
_____2 Somewhat friendly
_____3 Slightly friendly
_____4 Not at all friendly
_____5 I don't know or can't decide

(26) How much of your lunch at school do you usually throw or give away? (Check one)

_____1 I eat all of my lunch
_____2 I throw or give away a little
_____3 I throw or give away about half
_____4 I throw or give away more than half
_____5 I throw or give away all, or nearly all, of my lunch
_____6 I don't eat lunch in school

(27) Should your school give students a choice of two or more different lunches each day?

_____1 Yes
_____2 No

(28) Does your doctor or dentist want you to stay away from certain foods? (Do you avoid certain foods because you have allergies, a weight problem, other health problems, teeth braces, etc.?)

_____1 Yes
_____2 No

(29-34) If you answered "Yes" to Question (28), name some foods (up to 3 kinds) your doctor or dentist wants you to stay away from:

_____
_____
_____

(35) Do you stay away from any other foods because of your religious, family, or personal beliefs? (Do you avoid certain foods because of your church or synagogue teachings, because you are vegetarian, or because you only eat "natural" or unprocessed foods?)

_____1 Yes
_____2 No

(36-41) If you answered "Yes" to Question (35), name some foods (up to 3 kinds) you stay away from because of religious, family, or personal beliefs:

_____
_____
_____

GO ON TO THE NEXT PAGE--

FOODS IN THE SCHOOL LUNCH

On the left side of this page are the names of foods your school serves at lunch time. For each food, check one box to show how much you like that food as it is served at your school. For example, when you rate "Meat pattie in bun," think about the hamburger in the school lunch. Don't think about a restaurant hamburger or a hamburger cooked at home.

If you haven't eaten a certain school-lunch food in school, you may still check a box to show how much you think you would like that food as it is served at your school.

FOODS	HOW MUCH DO YOU LIKE THIS FOOD AS IT IS SERVED AT YOUR SCHOOL?					
	Great	Good	So-So	Bad	Awful	I don't know
(45) Meat pattie in bun	☐	☐	☐	☐	☐	☐
(46) Hot ham and cheese sandwich	☐	☐	☐	☐	☐	☐
(47) Chuckwagon	☐	☐	☐	☐	☐	☐
(48) Fishwich	☐	☐	☐	☐	☐	☐
(49) Hot dog	☐	☐	☐	☐	☐	☐
(50) Barbecued beef on a bun	☐	☐	☐	☐	☐	☐
(51) Pizza	☐	☐	☐	☐	☐	☐
(52) Tacos or taco scramble, with taco sauce and cup of fixings	☐	☐	☐	☐	☐	☐
(53) Spaghetti with meat sauce	☐	☐	☐	☐	☐	☐
(54) Chili	☐	☐	☐	☐	☐	☐
(55) Peas	☐	☐	☐	☐	☐	☐
(56) Corn	☐	☐	☐	☐	☐	☐
(57) Mixed vegetables	☐	☐	☐	☐	☐	☐
(58) Baked beans	☐	☐	☐	☐	☐	☐
(59) Carrot and celery sticks	☐	☐	☐	☐	☐	☐
(60) French fries	☐	☐	☐	☐	☐	☐
(61) Tri-tators (potatoes)	☐	☐	☐	☐	☐	☐
(62) Roundabouts (potatoes)	☐	☐	☐	☐	☐	☐
(63) Whole wheat bread and butter sandwich	☐	☐	☐	☐	☐	☐
(64) White bread and butter sandwich	☐	☐	☐	☐	☐	☐
(65) Dinner roll and butter	☐	☐	☐	☐	☐	☐
(66-80) Do not write in the boxes below:	Great	Good	So-So	Bad	Awful	I don't know

															1

GO ON TO THE NEXT PAGE--

FOODS IN THE SCHOOL LUNCH (continued)

FOODS	HOW MUCH DO YOU LIKE THIS FOOD AS IT IS SERVED AT YOUR SCHOOL?					
	Great	Good	So-So	Bad	Awful	I don't know
(1) Applesauce	☐	☐	☐	☐	☐	☐
(2) Peach slices	☐	☐	☐	☐	☐	☐
(3) Pear half	☐	☐	☐	☐	☐	☐
(4) Apricot halves	☐	☐	☐	☐	☐	☐
(5) Mixed fruit	☐	☐	☐	☐	☐	☐
(6) Banana	☐	☐	☐	☐	☐	☐
(7) Apple	☐	☐	☐	☐	☐	☐
(8) Tangerine	☐	☐	☐	☐	☐	☐
(9) Orange	☐	☐	☐	☐	☐	☐
(10) Pudding with topping	☐	☐	☐	☐	☐	☐
(11) Gelatin (like Jello) with topping	☐	☐	☐	☐	☐	☐
(12) Frosted brownie (chocolate)	☐	☐	☐	☐	☐	☐
(13) Spicy fruit bar	☐	☐	☐	☐	☐	☐
(14) Cereal bar	☐	☐	☐	☐	☐	☐
(15) Snoopy bar (has peanut butter in it)	☐	☐	☐	☐	☐	☐
(16) Cookie	☐	☐	☐	☐	☐	☐
(17) White regular milk	☐	☐	☐	☐	☐	☐
(18) White skim milk	☐	☐	☐	☐	☐	☐
(19) Chocolate milk	☐	☐	☐	☐	☐	☐
(20) Malt or milkshake (if this is not served at your school, check "I don't know")	☐	☐	☐	☐	☐	☐
	Great	Good	So-So	Bad	Awful	I don't know

GO ON TO THE NEXT PAGE--

The foods you just rated are now served fairly often (at least once every three weeks) as part of the regular school lunch at your school.

In your opinion, which of the following other foods should be served fairly often as part of the regular school lunch?

Should the school lunch fairly often include--

(30) Ice cream?

_____1 Yes

_____2 No

_____3 I don't know

(31) Corn dog?

_____1 Yes

_____2 No

_____3 I don't know

(32) Chinese chow mein?

_____1 Yes

_____2 No

_____3 I don't know

(33) Wild rice mixed with regular rice?

_____1 Yes

_____2 No

_____3 I don't know

(34) Cole slaw?

_____1 Yes

_____2 No

_____3 I don't know

(35) Chinese fried rice?

_____1 Yes

_____2 No

_____3 I don't know

(36) Indian fry bread with a hamburger or a hot dog inside?

_____1 Yes

_____2 No

_____3 I don't know

(37) Soup?

_____1 Yes

_____2 No

_____3 I don't know

(38) A large salad with meat, cheese, hard-cooked eggs, or other such foods on top?

_____1 Yes

_____2 No

_____3 I don't know

(39-41)

In the space below, please name one other food that should be served fairly often as part of the regular school lunch:

_____

(42) Would you like to be able to make your own salad in school at lunchtime?

_____1 Yes

_____2 No

_____3 I don't know

(43) What is your sex?

_____1 Male

_____2 Female

(44-45)

How old are you? Write your age in the blank below:

_____

(46) What is your race or ethnic group? (Check one)

_____1 White

_____2 Black

_____3 Native American (Chippewa, Sioux, Winnebago, or other tribe)

_____4 Asian American

_____5 Mexican American

_____6 Other. Please describe:_____

_____

(47-53)

In the space below, please write one suggestion for improving school lunches:

THE END. THANK YOU FOR YOUR ANSWERS.

(66-79) Dup. Card 1, Col. 66-79

(80) 2

Minneapolis Public Schools B1
Citywide Committee on Nutrition
and
Research and Evaluation Department

SCHOOL LUNCH QUESTIONNAIRE

Your answers to this questionnaire will be used to improve the lunches that are served at your school.

(1) How often do you get a whole lunch at school?
(Mark a check in one of the blanks below to show your answer)

_____1 Every day I'm in school
_____2 Nearly every day
_____3 At least once a week
_____4 At least once a month
_____5 Never

(2) Who decides whether or not you will get a lunch at school?
(Check one)

_____1 My parents (or guardians) decide whether or not I will get a school lunch
_____2 Both I and my parents decide whether or not I will get a school lunch
_____3 I decide whether or not I will get a school lunch
_____4 Someone else decides. Please explain:

_____

(3) Did you eat any lunch today?

_____1 Yes _____2 No

If you answered "Yes," please answer each of these questions below:

TODAY--

(4) Did you eat any of the following whole school lunches today: a regular school lunch, a pre-pack lunch, or a "combo" lunch?

_____1 Yes
_____2 No

(5) Did you bring most or all of your lunch from home?

_____1 Yes
_____2 No

(6) Did you get food or a drink from the a la carte or snack bar line in your school?

_____1 Yes
_____2 No

(7) If you answered "Yes" to Question (6), would you say you got a whole lunch, or almost a whole lunch, from the snack bar line?

_____1 Yes
_____2 No
_____3 I didn't go through the snack bar line

(8) Did you buy part or all of your lunch outside school?

_____1 Yes
_____2 No

(9) Where did you eat your lunch?
(Check one)

_____1 In the school cafeteria or lunchroom
_____2 Somewhere else in school or on the school grounds
_____3 At a "fast-food" restaurant or other restaurant-type place off the school grounds
_____4 At home
_____5 Other place. Please describe:_____

_____

(Everyone answer Questions 15 and 16)

If you answered "No," please answer each of these questions below:

TODAY--

(10) Were you hungry at lunch time?

_____1 Yes
_____2 No

(11) Did you forget to bring a lunch from home?

_____1 Yes
_____2 No

(12) Did you forget to bring money or a ticket to get food?

_____1 Yes
_____2 No

(Everyone answer Questions 15 and 16)

TODAY--

(15) Did you eat any breakfast?

_____1 Yes
_____2 No

(16) Where did you eat breakfast?
(Check one)

_____1 At home
_____2 At school
_____3 At another place. Please name the place:_____
_____4 I did not eat any breakfast today

5/77

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GO ON TO THE NEXT PAGE--

In the questions on this page, the words "school lunches" mean the regular whole lunches, the pre-pack lunches, or the "combo" lunches that are served at your school.

(17) How good do the school lunches usually taste? (Check one)

_____1 Very good
_____2 Good
_____3 Fair
_____4 Poor
_____5 Very poor
_____6 I don't know

(18) How good do the school lunches usually look? (Check one)

_____1 Very good
_____2 Good
_____3 Fair
_____4 Poor
_____5 Very poor
_____6 I don't know

(19) How would you rate the amount of food in the school lunch? (Check one)

_____1 Too much food for me
_____2 Just the right amount of food for me
_____3 Too little food for me
_____4 I don't know

(20) How would you rate the cost of the school lunch for those who must pay the regular cash price of 65¢ for it? (Check one)

_____1 Costs too much
_____2 Cost is just right
_____3 Costs too little
_____4 I don't know

(21) How often do the school lunches contain foods that are supposed to be hot, but instead are too cool or frozen? (Check one)

_____1 Every day, or nearly every day
_____2 Sometimes
_____3 Hardly ever
_____4 Never
_____5 I don't know

(22) How often do the school lunches contain foods that are supposed to be cold, but instead are too warm? (Check one)

_____1 Every day, or nearly every day
_____2 Sometimes
_____3 Hardly ever
_____4 Never
_____5 I don't know

(23) How often do the school lunches contain foods that are too dry or too hard? (Check one)

_____1 Every day, or nearly every day
_____2 Sometimes
_____3 Hardly ever
_____4 Never
_____5 I don't know

(24) How often do the school lunches contain vegetables that are too soft or mushy? (Check one)

_____1 Every day, or nearly every day
_____2 Sometimes
_____3 Hardly ever
_____4 Never
_____5 I don't know

(25) How friendly are most adults who work in the lunchroom or cafeteria at your school? (Check one)

_____1 Very friendly
_____2 Somewhat friendly
_____3 Slightly friendly
_____4 Not at all friendly
_____5 I don't know or can't decide

(26) How much of your lunch at school do you usually throw or give away? (Check one)

_____1 I eat all of my lunch
_____2 I throw or give away a little
_____3 I throw or give away about half
_____4 I throw or give away more than half
_____5 I throw or give away all, or nearly all, of my lunch
_____6 I don't eat lunch in school

(27) Should your school give students a choice of two or more different lunches each day?

_____1 Yes
_____2 No

(28) Does your doctor or dentist want you to stay away from certain foods? (Do you avoid certain foods because you have allergies, a weight problem, other health problems, teeth braces, etc.?)

_____1 Yes
_____2 No

(29-34) If you answered "Yes" to Question (28), name some foods (up to 3 kinds) your doctor or dentist wants you to stay away from:

_____

_____

_____

(35) Do you stay away from any other foods because of your religious, family, or personal beliefs? (Do you avoid certain foods because of your church or synagogue teachings, because you are vegetarian, or because you only eat "natural" or unprocessed foods?)

_____1 Yes
_____2 No

(36-41) If you answered "Yes" to Question (35), name some foods (up to 3 kinds) you stay away from because of religious, family, or personal beliefs:

_____

_____

_____

GO ON TO THE NEXT PAGE--

FOODS IN THE SCHOOL LUNCH

On the left side of this page are the names of foods your school serves at lunch time. For each food, check one box to show how much you like that food as it is served at your school. For example, when you rate "Meat pattie in bun," think about the hamburger in the school lunch. Don't think about a restaurant hamburger or a hamburger cooked at home.

If you haven't eaten a certain school-lunch food in school, you may still check a box to show how much you think you would like that food as it is served at your school.

FOODS	HOW MUCH DO YOU LIKE THIS FOOD AS IT IS SERVED AT YOUR SCHOOL?					
	Great	Good	So-So	Bad	Awful	I don't know
(45) Meat pattie in bun.	☐	☐	☐	☐	☐	☐
(46) Hot ham and cheese sandwich	☐	☐	☐	☐	☐	☐
(47) Chuckwagon.	☐	☐	☐	☐	☐	☐
(48) Fishwich.	☐	☐	☐	☐	☐	☐
(49) Hot dog	☐	☐	☐	☐	☐	☐
(50) Barbecued beef on a bun	☐	☐	☐	☐	☐	☐
(51) Pizza	☐	☐	☐	☐	☐	☐
(52) Tacos or taco scramble, with taco sauce and cup of fixings	☐	☐	☐	☐	☐	☐
(53) Spaghetti with meat sauce	☐	☐	☐	☐	☐	☐
(54) Chili	☐	☐	☐	☐	☐	☐
(55) Peas.	☐	☐	☐	☐	☐	☐
(56) Corn.	☐	☐	☐	☐	☐	☐
(57) Mixed vegetables.	☐	☐	☐	☐	☐	☐
(58) Baked beans	☐	☐	☐	☐	☐	☐
(59) Carrot and celery sticks.	☐	☐	☐	☐	☐	☐
(60) French fries	☐	☐	☐	☐	☐	☐
(61) Tri-tators (potatoes)	☐	☐	☐	☐	☐	☐
(62) Roundabouts (potatoes).	☐	☐	☐	☐	☐	☐
(63) Whole wheat bread and butter sandwich	☐	☐	☐	☐	☐	☐
(64) White bread and butter sandwich	☐	☐	☐	☐	☐	☐
(65) Dinner roll and butter.	☐	☐	☐	☐	☐	☐

(66-80) Do not write in the boxes below:

Great	Good	So-So	Bad	Awful	I don't know

														1

GO ON TO THE NEXT PAGE--

FOODS IN THE SCHOOL LUNCH (continued)

FOODS	HOW MUCH DO YOU LIKE THIS FOOD AS IT IS SERVED AT YOUR SCHOOL?					
	Great	Good	So-So	Bad	Awful	I don't know
(1) Applesauce	☐	☐	☐	☐	☐	☐
(2) Peach slices	☐	☐	☐	☐	☐	☐
(3) Pear half	☐	☐	☐	☐	☐	☐
(4) Apricot halves	☐	☐	☐	☐	☐	☐
(5) Mixed fruit	☐	☐	☐	☐	☐	☐
(6) Banana	☐	☐	☐	☐	☐	☐
(7) Apple	☐	☐	☐	☐	☐	☐
(8) Tangerine	☐	☐	☐	☐	☐	☐
(9) Orange	☐	☐	☐	☐	☐	☐
(10) Pudding with topping	☐	☐	☐	☐	☐	☐
(11) Gelatin (like Jello) with topping	☐	☐	☐	☐	☐	☐
(12) Frosted brownie (chocolate)	☐	☐	☐	☐	☐	☐
(13) Spicy fruit bar	☐	☐	☐	☐	☐	☐
(14) Cereal bar	☐	☐	☐	☐	☐	☐
(15) Snoopy bar (has peanut butter in it)	☐	☐	☐	☐	☐	☐
(16) Cookie	☐	☐	☐	☐	☐	☐
(17) White regular milk	☐	☐	☐	☐	☐	☐
(18) White skim milk	☐	☐	☐	☐	☐	☐
(19) Chocolate milk	☐	☐	☐	☐	☐	☐
(20) Malt or milkshake (if this is not served at your school, check "I don't know")	☐	☐	☐	☐	☐	☐
	Great	Good	So-So	Bad	Awful	I don't know

GO ON TO THE NEXT PAGE--

The foods you just rated are now served fairly often (at least once every three weeks) as part of the regular whole lunch, the pre-pack lunch, or the "combo" lunch at your school.

In your opinion, which of the following other foods should be served fairly often as part of the regular whole lunch, pre-pack lunch, or "combo" lunch?

Should the school lunches fairly often include--

(30) Ice cream?

_____1 Yes

_____2 No

_____3 I don't know

(31) Corn dog?

_____1 Yes

_____2 No

_____3 I don't know

(32) Chinese chow mein?

_____1 Yes

_____2 No

_____3 I don't know

(33) Wild rice mixed with regular rice?

_____1 Yes

_____2 No

_____3 I don't know

(34) Cole slaw?

_____1 Yes

_____2 No

_____3 I don't know

(35) Chinese fried rice?

_____1 Yes

_____2 No

_____3 I don't know

(36) Indian fry bread with a hamburger or a hot dog inside?

_____1 Yes

_____2 No

_____3 I don't know

(37) Soup?

_____1 Yes

_____2 No

_____3 I don't know

(38) A large salad with meat, cheese, hard-cooked eggs, or other such foods on top?

_____1 Yes

_____2 No

_____3 I don't know

(39-41)
In the space below, please name one other food that should be served fairly often as part of the regular whole lunch, pre-pack lunch, or "combo" lunch:

_____

(42) Would you like to be able to make your own salad in school at lunchtime?

_____1 Yes

_____2 No

_____3 I don't know

(43) What is your sex?

_____1 Male

_____2 Female

(44-45)
How old are you? Write your age in the blank below:

_____

(46) What is your race or ethnic group? (Check one)

_____1 White

_____2 Black

_____3 Native American (Chippewa, Sioux, Winnebago, or other tribe)

_____4 Asian American

_____5 Mexican American

_____6 Other. Please describe: _____

_____

(47-53)
In the space below, please write one suggestion for improving school lunches:

THE END. THANK YOU FOR YOUR ANSWERS.

(66-79) Dup. Card 1, Col. 66-79

(80) 2

C1

Minneapolis Public Schools
Citywide Committee on Nutrition and
Research and Evaluation Department

THE LUNCH PROGRAM IN YOUR SCHOOL

(A QUESTIONNAIRE FOR PRINCIPALS)

Where do your students eat lunch?

(1) What proportion of your students usually eat lunch in the cafeteria or lunchroom?
(Check one)

_____1 All or nearly all
_____2 More than half
_____3 About half
_____4 Less than half
_____5 Few or none
_____6 I don't know

(2) Are your students allowed to go to their homes at lunchtime?

_____1 Yes
_____2 No

(3) Are your students allowed to leave the school grounds at lunchtime to go places other than home?

_____1 Yes
_____2 No

(4) Do some or all of your students usually eat in their classrooms?

_____1 Yes
_____2 No

(5) Do students and adults eat lunch in the same room at the same time?

_____1 Yes
_____2 No

Size of eating groups

(6) In your school at lunchtime, what is the average size of each group of students eating in the same room at the same time?
(Check one)

_____1 0-20 students
_____2 21-50 students
_____3 51-100 students
_____4 101-200 students
_____5 201-300 students
_____6 301-400 students
_____7 over 400 students
_____8 the groups vary so much in size that an average is not meaningful. Please explain:

_____
_____
_____
_____

Lunchtime procedures and policies at your school

(7-8) In the space below, write the maximum amount of time a student has to eat lunch:

_____minutes

(9) Do students who eat in school have a recess or recreational period shortly before lunch?

_____1 Yes
_____2 No

(10) Do students who eat in school have a recess or recreational period right after lunch?

_____1 Yes
_____2 No

(11) If you answered "Yes" to Question (10), do students have a longer recess or recreational period the faster they eat? Skip this question if you answered "No" to Question (10).

_____1 Yes
_____2 No

(12) Does your school have separate lunch lines for students and adults?

_____1 Yes
_____2 No

(13) When may a student get up and leave the table at which he/she has been eating?

A student may get up and leave the table--
(Check one)

_____1 As soon as he/she is finished eating
_____2 After a specific minimum amount of time has passed. Please write this specific minimum amount of time, if applicable:
_____minutes
_____3 After all students sitting at the same table have finished eating
_____4 Some other policy determines when a student may get up and leave the table. Please describe any such policy:

_____
_____
_____
_____

GO ON TO NEXT PAGE--

(14-20) Do not write in the boxes below

(21) Are there some students in your school, not presently receiving free or reduced-price lunches, who would be eligible if they applied?

_____1 Yes

_____2 No

_____3 I don't know

(22-29) If you answered "Yes" to Question (21), please explain why you think there students haven't applied for a free or reduced-price lunch:

Suppose a student comes to your school with no lunch and no money to buy lunch. Furthermore, this child has not been approved as eligible for a free or reduced-price lunch.
Under these circumstances, would your school--

(30) Give the student a whole school lunch?

_____1 Yes

_____2 No

_____3 It depends. Please explain:_____

_____

_____

(31) Give the student a peanut butter sandwich?

_____1 Yes

_____2 No

_____3 It depends. Please explain:_____

_____

_____

(32-38) Please describe any other procedures and policies your school would follow in dealing with this problem of a student who had made no provision for receiving a lunch:

(39) How often this year has a school lunch supervisor from the Nutrition Center staff visited your school and talked with people from your staff about your school lunch program? (Check one)

_____ Never

_____ 0-2 times

_____ 3-5 times

_____ 6-10 times

_____ Over 10 times

_____ I don't know

(40) Do you think you need more information concerning the federal, state, and local regulations that apply to the school lunch program at your school?

_____1 Yes

_____2 No

_____3 I don't know

Lunchroom equipment

(41) Does your lunchroom or cafeteria have food heating equipment (for re-heating already cooked foods and holding them at the right serving temperature) adequate for the current needs of your school lunch program?

_____1 Yes

_____2 No

_____3 I don't know

(42) Does your lunchroom or cafeteria have refrigeration and freezing equipment adequate for the current needs of your school lunch program?

_____1 Yes

_____2 No

_____3 I don't know

(43) Does your lunchroom or cafeteria have furniture (tables, chairs, serving counters, etc.) adequate for the current needs of your school lunch program?

_____1 Yes

_____2 No

_____3 I don't know

(44-49) In the space below, please describe any heating equipment, refrigeration equipment, furniture, or other equipment your school now needs for the school lunch program:

GO ON TO THE NEXT PAGE--

Nutrition Education in your School

(50) Are there any posters or printed materials on good nutrition now on display in your school where they can be read by students during lunchtime?

_____1 Yes

_____2 No

(51) Do any teachers in your school teach your students the nutritional value of various foods served in your school's lunch program?

_____1 Yes

_____2 No

_____3 I don't know

(52) Do you think your school should teach all students the nutritional value of various foods served in your school's lunch program?

_____1 Yes

_____2 No

Increasing participation and reducing waste

(53) Have there been any efforts at your school this year to improve participation in the school lunch program?

_____1 Yes

_____2 No

(54-60) If you answered "Yes" to Question (53), please describe the efforts to increase participation in the lunch program:

(61) Should your school give students a choice of two or more different lunches each day? (Your school may be doing this already, but <u>should</u> this choice be offered?)

_____1 Yes

_____2 No

(62-66) In the space below, please write one suggestion for increasing the number of students at your school who get a whole school lunch?

(67-71) In the space below, please write one suggestion for decreasing the amount of school lunch food that your students throw or give away:

THE END. THANK YOU FOR YOUR ANSWERS.

(72-80) Do not write in the boxes below

								3

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Tables

Table 1
Minneapolis Public Schools
Citywide Committee on Nutrition

Participation in School Lunch Program by Students in Regular School Programs

Information furnished by--
Food Services Department and
Information Services Center
Table by--
Research and Evaluation Department
3/18/77

Type of School	School	Grade range Low	Grade range High	Overall enrollment and attendance, excluding kindergarten, 9/8-10/8/76: Average daily membership (A.D.M.)	Overall enrollment and attendance, excluding kindergarten, 9/8-10/8/76: Average daily attendance (A.D.A.)	Overall participation in school lunch program, 1/10-2/4/77: Average daily lunches served	Overall participation in school lunch program, 1/10-2/4/77: Average participation as % of A.D.A.	Participation by various lunch categories, 1/10-2/4/77: Free lunches: % of A.D.M. eligible as of 3/6/77	Free lunches: as % of lunches served	Reduced-price lunches: % of A.D.M. eligible as of 3/6/77	Reduced-price lunches: as % of lunches served	Full-paid lunches as % of lunches served	Average % of students enrolled whose families receive AFDC, 9/8-12/23/76
Primary	707 Bethune	K	3	355	335	402	120%	96%	73%	17%	11%	16%	60%
	712 Cleveland	K	3	192	186	114	61	34	48	14	21	31	35
	723 Hale	K	3	657	638	316	50	17	29	7	11	60	14
	724 Hall	K	3	171	165	173	105	91	84	8	6	9	55
	740 Loring	K	3	144	138	84	61	35	49	6	8	44	30
	748 McKinley	K	3	263	252	193	77	52	58	17	19	23	41
	798 North Star Prim.	K	3	449	422	378	90	70	75	15	14	10	57
	754 Penn	K	3	163	158	86	54	42	59	12	15	26	40
	763 Standish	K	2	325	312	160	51	34	46	10	15	39	29
	769 Willard	K	3	406	382	309	81	57	68	15	15	17	45
Inter-mediate	705 Bancroft	3	6	553	533	320	60	39	73	12	14	22	27
	708 Bremer	4	6	549	518	366	71	54	58	18	18	25	41
	719 Field	4	6	550	532	286	54	22	35	8	11	54	17
	729 Lincoln Interm.	4	6	499	477	340	71	44	50	12	17	33	34
	799 North Star Inter.	4	6	431	398	330	83	68	79	12	11	10	61
	758 Putnam	3	6	330	310	219	78	46	61	13	16	24	42
	766 Webster	4	6	399	379	313	83	62	69	14	15	16	44
Full Elementary	702 Agassiz	K	6	307	295	185	63	41	54	11	12	34	25
	790 Andersen A	K	6	508	467	423	91	91	86	10	9	6	65
	791 Andersen B	K	6	498	462	442	96	92	82	11	9	9	63
	792 Andersen C	K	6	232	218	230	106	105	95	5	1	4	42
	703 Armatage	K	6	437	425	137	32	8	20	5	12	68	8
	704 Audubon	K	6	235	229	52	23	5	15	4	7	78	8
	706 Barton	K	6	366	353	134	38	15	38	4	8	55	14
	710 Burroughs	K	6	457	444	167	38	2	4	0	1	95	0
	714 Cooper	K	6	304	296	143	48	14	24	13	13	63	11
	718 Ericsson	K	6	281	274	156	57	27	39	11	16	45	19
	721 Fulton	K	6	418	410	145	35	5	10	3	6	85	3
	726 Hamilton	K	6	261	252	157	62	31	45	12	16	38	31
	727 Harrison	K	8	349	332	128	39	34	70	3	3	27	28
	730 Hiawatha	K	6	354	344	190	55	21	30	21	10	60	13
	731 Holland	K	6	280	268	230	86	64	68	11	8	24	32
	732 Howe	K	6	323	312	145	46	17	32	6	7	61	16
	779 Jefferson	K	5	606	582	353	61	42	68	6	6	26	42
	734 Keewaydin	K	6	273	267	89	33	14	18	12	14	67	7
	735 Kenny	K	6	320	312	138	44	8	14	3	10	76	5
	736 Kenwood	K	5	381	360	219	61	39	46	7	10	34	36
	737 Lake Harriet	K	6	243	235	108	46	11	20	4	7	73	7
	738 Lind	K	6	337	325	221	68	47	57	9	9	34	30
	739 Longfellow	K	6	360	345	229	66	29	40	17	20	40	27
	742 Lowry	K	6	343	333	170	51	24	37	8	13	50	22

Table 1 (Continued)
Participation in School Lunch Program by Students on Regular School Programs

b

Type of School	School	Grade range Low	Grade range High	Overall enrollment and attendance, excluding kindergarten, 9/8-10/8/76: Average daily membership (A.D.M.)	Average daily attendance (A.D.A.)	Overall participation in school lunch program, 1/10-2/4/77: Average daily lunches served	Average participation as % of A.D.A.	Participation by various lunch categories, 1/10-2/4/77: Free lunches: % of A.D.M. eligible as of 3/6/77	Free lunches: as % of lunches served	Reduced-price lunches: % of A.D.M. eligible as of 3/6/77	Reduced-price lunches: as % of lunches served	Full-paid lunches as % of lunches served	Average % of students enrolled whose families receive AFDC, 9/8-12/23/76
	744 Lyndale	K	6	599	573	410	72	48	63	9	11	26	39
	747 Marcy	K	6	278	264	101	38	25	57	7	11	32	18
	749 Minnehaha	K	6	338	329	164	50	14	22	6	11	67	12
	750 Morris Park	K	6	315	308	177	57	23	25	14	18	57	15
	752 Northrop	K	6	281	273	132	48	23	38	12	15	47	18
	753 Page	K	6	233	228	114	50	8	15	3	5	81	7
	755 Pillsbury	K	6	306	296	155	52	20	31	11	14	55	23
	756 Pratt	K	6	338	320	164	51	38	70	3	2	27	36
	760 Seward	K	6	389	372	243	65	49	61	11	11	28	38
	762 Shingle Creek	K	6	281	272	131	48	32	44	10	13	43	20
	764 Tuttle	K	6	269	257	124	48	29	48	9	15	37	26
	765 Waite Park	K	6	480	469	184	39	10	23	8	12	65	11
	767 Wenonah	K	6	210	205	89	43	6	12	8	16	72	8
	794 Wilder A	K	6	513	482	354	73	56	71	9	9	20	45
	795 Wilder B	K	6	488	464	308	66	56	71	8	9	20	43
	796 Wilder C	K	6	506	481	356	74	67	76	7	8	16	44
	770 Windom	K	6	303	291	147	51	12	22	6	10	68	14
Elementary averages, all schools (primary, intermediate, full elementary)				21036	20159	12329	61%	39%	54%	9%	11%	34%	31%
Middle	801 Anwatin Lrng Ctr	5	8	739	686	276	40%	31%	50%	6%	7%	43%	31%
	800 Anthony	7	8	873	837	369	44	13	26	6	10	64	9
	802 Bryant	7	8	792	729	297	41	41	78	8	8	14	33
	804 Folwell	7	9	854	787	399	51	31	48	12	16	36	25
	806 Franklin	7	8	505	481	285	59	65	78	16	13	10	48
Junior High	810 Jordan	7	8	582	532	284	53	65	84	14	9	7	46
	814 Nokomis	7	9	762	727	385	53	13	17	10	15	68	11
	816 Northeast	7	9	910	867	455	52	18	31	11	16	53	11
	818 Olson	7	8	460	431	248	58	30	44	14	15	41	19
	820 Phillips	7	9	821	633	402	64	57	74	9	9	16	43
	822 Ramsey 9th Gr Ctr	9	9	924	865	176	20	21	66	4	10	24	18
	824 Sanford	7	9	634	606	259	43	22	43	11	16	41	18
	826 Sheridan	7	9	452	423	216	51	42	56	13	19	25	29
	850 Central	10	12	1183	1073	204	19	34	79	5	4	17	27
	852 Edison	10	12	1611	1485	254	17	13	42	6	20	38	12
Senior High	854 Henry	9	12	1761	1662	215	13	19	58	8	16	26	15
	858 North	9	12	1844	1515	443	29	36	97	8	1	2	41
	860 Roosevelt	10	12	1806	1699	358	21	9	24	6	12	65	7
	862 South	10	12	1258	1090	221	20	23	57	6	11	32	21
	868 Washburn	10	12	1458	1415	150	11	7	28	2	8	64	6
	870 West	9	12	1264	1121	132	12	17	60	3	8	31	19
Junior-Senior High	856 Marshall-Univ.	6	12	1055	968	183	19	26	75	5	8	17	17
	864 Southwest	7	12	1646	1539	192	12	8	50	2	5	45	4
Secondary averages (middle, junior highs, senior highs)		-	-	24194	22171	6403	29%	24%	54%	7%	11%	35%	22%
K-12 Free	171 S.E. Alternatives	K	12	162	131	66	50%	70%	84%	10%	6%	10%	44%
Citywide averages		-	-	45392	42461	18798	44%	31%	54%	8%	11%	34%	27%

Table 2

Racial and Ethnic Group Membership Distribution in the Survey Sample, Based on Student Self-Report , Compared with the Citywide Racial and Ethnic Group Distribution

Question 46--A, B

Question: "What is your race or ethnic group? (Check one)"	Grade 5		Grade 8		Grade 11	
	Survey sample (n=671) %	Citywide total (n=2089) %	Survey sample (n=496) %	Citywide total (n=3463) %	Survey sample (n=414) %	Citywide total (n=4314) %
White.	68	78	74	79	79	81
Black.	12	15	16	14	10	14
Native American (Chippewa, Sioux, Winnebago, or other tribe)	6	5	3	5	1	3
Asian American	0[a]	2	0[a]	1	1	1
Mexican American	1	1[b]	1	1[b]	1	1[b]
Other. Please describe[c] . .	8	0	4	0	3	0
No answer.	6	--	2	--	6	--

Note. The source of data on the Citywide racial and ethnic group distribution is the following publication: Information Services Center, Minneapolis Public Schools. Pupil-Personnel Sight Count as of October 19, 1976. Minneapolis: Minneapolis Public Schools, 1976.

[a]At least 1 respondent, but less than 1%.

[b]These percents represent the Citywide sight count category, "Hispanic Americans."

[c]Students in this category most often described themselves as White and Black (17 students), White and Native American (15), and White and Asian American (10). Students who checked more than one racial/ethnic group were included in this category.

Question 1--A, B, Questionnaires

Table 5

Self-Reported Student Participation in the 1976-77
Minneapolis School Lunch Program

Question: "How often do you get a whole lunch at school?"	Grade 5	Grade 8		Grade 11	
		Prepack service	Served on site	Prepack service	Served on site
	% (n=671)	% (n=186)	% (n=311)	% (n=193)	% (n=221)
5 = Every day I'm in school. . . .	46	25	24	8	9
4 = Nearly every day	26	30	29	10	17
3 = At least once a week	5	11	14	14	10
2 = At least once a month.	6	11	7	15	17
1 = Never.	16	23	24	52	47
No answer	2	1	1	1	1
	Summary statistics, M and SD				
Mean (average) of the numerical ratings, 1-5	3.8	3.2	3.2	2.1	2.2
Standard deviation of the numerical ratings, 1-5	1.5	1.5	1.5	1.4	1.4

Note. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen. The present assignment of numbers to ratings, so that higher numbers represent more favorable ratings, differs from the assignment of numbers to ratings in the original questionnaire; recoding was performed. The standard deviation (SD) is an index of dispersion around the mean. Under usual circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean.

Question 2--A, B

Table 4

Student Perceptions of the People Involved in the Decision to Get, or Not Get, a School Lunch

Question: "Who decides whether or not you will get a lunch at school?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
My parents (or guardians) decide whether or not I will get a school lunch	41	22	17	8	13	6	10	1	3	1
Both I and my parents decide whether or not I will get a school lunch.	35	39	24	25	30	19	16	8	15	4
I decide whether or not I will get a school lunch.	22	39	53	65	51	64	68	90	79	93
Someone else decides. Please explain:[a]	2	0	1	0	1	4	5	1	3	0
No answer.	2	0	5	2	5	6	2	1	1	2

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen.

[a]14 students provided written comments to support their checked response of "Someone else decides." Persons and explanations included: social worker, teacher, or school decides (6 students); group home parents decide (3); "government" decides (2); poor finances (2); relative decides (1).

Questions 3, 15--A, B

Table 5

Self-Reported Student Consumption of Breakfast and Lunch on Day Questionnaire Was Given

Meal	Grade 5 % (n=671)			Grade 8 % (n=497)			Grade 11 % (n=353)		
	Yes	No	No answer	Yes	No	No answer	Yes	No	No answer
Breakfast question: "TODAY--									
"Did you eat any breakfast?".	85	15	0[a]	61	30	9[b]	52	37	11[b]
Lunch question:									
"Did you eat any lunch today?".	93	5	2	79	20	1	62	35	3

Summary: number of meals student missed as of time of survey (afternoon).	Number of meals student missed											
	0	1	2	Inc.[c] data	0	1	2	Inc.[c] data	0	1	2	Inc.[c] data
	79	17	1	2	46	38	6	10	33	38	16	13

Note. Attempts were made to schedule questionnaire administration in the afternoon, after lunch. However, in 2 of 12 schools with 5th graders surveyed, in 3 of 7 schools with 8th graders surveyed, and 4 of 7 schools with 11th graders surveyed, the questionnaires were given before lunch; students were then instructed to read the lunch question as, "Are you going to eat any lunch today?" The other "today's lunch" questions were reworded similarly in the verbal instructions to students. Answers to the question, "Are you going to eat any lunch today?" are considered equivalent to, and included in this table with, the answers to "Did you eat any lunch today?" In one high school, however, students took the questionnaire before lunch but were not instructed to answer the "today's lunch" questions on the basis of what they expected to do at lunchtime; this high school's students are omitted from this table. Available from the author on request is a table like the present one, differing only in that it is based on the responses of students answering the questionnaire after lunch; i.e., the questions were not reworded. Results presented in the 2 tables are highly similar; interpretations and conclusions based on either table would be identical.

[a] n=2.

[b] The placement of the breakfast question on the secondary student questionnaire differed from its placement on the elementary questionnaire. The breakfast question was evidently more likely to be overlooked on the secondary than on the elementary questionnaire.

[c] Inc.=Incomplete (student omitted answer to lunch or breakfast question, or both).

Questions 4 - 7--A

Elementary Student Questionnaire

Table 6

Self-Reported Lunchtime Behaviors on the Day of the Survey Among 5th Graders Who Ate Lunch

Question	Response (n=623)		
	Yes %	No %	No answer %
4. Did you get a whole school lunch?.....	65	33	2
5. Did you bring a lunch from home?.....	33	66	1
6. Did you get milk in the lunchroom, but not a whole school lunch?.....	35	63	2
7. Did you go home at lunchtime?.....	0[a]	98	2

Note. Respondents for this table were those who answered "Yes" to Question 3, "Did you eat any lunch today?" The questionnaire was designed to be given in the afternoon, after lunch. In 2 of the 12 elementary schools surveyed, however, the questionnaires were given before lunch; students were then instructed to read such questions as those referred to in this table as, "Are you going to eat any lunch today?", "Are you going to get a whole school lunch today?", etc. Answers to such reworded questions have been considered equivalent to answers to the original questions. Available from the author on request, however, is a table like the present one, differing only in that it is based on the responses of students answering the questionnaire after lunch; i.e., the questions were not reworded. Results presented in the 2 tables are highly similar; interpretations and conclusions based on either table would be identical.

[a] n=2.

Table 7

Questions 4 - 8--B
Secondary
Student
Questionnaire

Self-Reported Lunchtime Behaviors on the Day of the Survey
Among 8th and 11th Graders Who Ate Lunch

Question	Grade 8						Grade 11					
	Prepack service (n=150)			Served on site (n=243)			Prepack service (n=107)			Served on site (n=141)		
	Yes %	No %	No answer %	Yes %	No %	No answer %	Yes %	No %	No answer %	Yes %	No %	No answer %
4. Did you eat any of the following whole school lunches today: a regular school lunch, a pre-pack lunch, or a "combo" lunch?	56	42	2	66	34	0[a]	33	66	1	43	55	3
5. Did you bring most or all of your lunch from home?	18	82	0	28	71	1	33	66	1	23	76	1
6. Did you get food or a drink from the a la carte or snack bar line in your school?	65	35	0	59	41	0	71	28	1	55	45	0
7. If you answered "Yes" to Question (6), would you say you got a whole lunch, or almost a whole lunch, from the snack bar line?	22	37	41[b]	19	31	51[b]	20	49	32[b]	18	32	50[b]
8. Did you buy part or all of your lunch outside school?	21	74	5	24	73	3	34	65	1	34	65	1

Note. Respondents for this table were those who answered "Yes" to Question 3, "Did you eat any lunch today?" The questionnaire was designed to be given in the afternoon, after lunch. However, in 3 of 7 schools with 8th graders surveyed and 4 of 7 schools with 11th graders surveyed, the questionnaires were given before lunch; students were then instructed to read such questions as those referred to in this table as, "Are you going to eat any lunch today?", "Are you going to eat any of the following whole school lunches today: a regular school lunch, a pre-pack lunch, or a "combo lunch?", etc. Answers to such reworded questions have been considered equivalent to answers to the original questions. In one high school, however, students took the questionnaire before lunch but were not instructed to answer the "today's lunch" questions on the basis of what they expected to do at lunchtime; this high school's students are omitted from this table. Available from the author on request is a table like the present one, differing only in that it is based on the responses of students answering the questionnaire after lunch; i.e., the questions were not reworded. Results presented in the two tables are highly similar; interpretations and conclusions based on either table would be identical.

[a] n=1.

[b] The "No answer" category includes for Question 7, persons who checked the category, "I didn't go through the snack bar line."

Questions 4, 6, 7 - B
Secondary
Student
Questionnaire

Table 8

Self-Reported Purchase of A La Carte Food in the School Lunchroom By Students Who Also Ate a Whole School Lunch on the Day of the Survey

Students who ate a regular school lunch, a pre-pack lunch, or a "combo" lunch (answered "Yes" to Question 4) and then--	Grade 8 (n=244 students ate a whole school lunch) %	Grade 11 (n=91 students ate a whole school lunch) %
Also purchased food or drink from the a la carte or snack bar line in their school (answered "Yes" to Question 6).	58	56
Purchased food or drink from the a la carte or snack bar line equivalent, or almost equivalent, to a whole school lunch (answered "Yes" to Questions 6 and 7).	21	24

Question 9 --B
Secondary
Student
Questionnaire

Table 9

Location Where Secondary Students Ate Lunch on the Day of the Survey

Question: "TODAY-- "Where did you eat your lunch? (Check one)"	Grade 8		Grade 11	
	Prepack service (n=150) %	Served on site (n=243) %	Prepack service (n=107) %	Served on site (n=141) %
In the school cafeteria or lunchroom.	85	84	47	62
Somewhere else in school or on the school grounds.	4	5	33	13
At a "fast-food" restaurant or other restaurant-type place off the school grounds	1	8	10	14
At home	3	0[a]	3	1
Other place. Please describe[b]	5	1	6	11
No answer	2	1	2	0

Note. Respondents for this table were those who answered "Yes" to Question 3, "Did you eat any lunch today?" In one high school, students took the questionnaire before lunch but were not instructed to answer the "today's lunch" questions on the basis of what they expected to do at lunchtime; this high school's students are omitted from this table.

[a] n=1.

[b] Other locations where students reported eating lunch were a nearby store (14 students), on private property or a park near school (6), on a field trip (4), in a car (2), walking with friends (2), on a bus (1), or at a friend's home (1).

Table 10

Questions 10-13--A, B

Students Who Did Not Eat Lunch on the Day of the Survey:
Did They Forget Lunch, Ticket, or Money? Were They Hungry? Did They Go Home (if Elementary Students)?

Question	Grade 5 (n=33)			Grade 8						Grade 11					
				Prepack service (n=34)			Served on site (n=67)			Prepack service (n=80)			Served on site (n=76)		
	Yes %	No %	No answer %	Yes %	No %	No answer %	Yes %	No %	No answer %	Yes %	No %	No answer %	Yes %	No %	No answer %
10. Were you hungry at lunchtime?	55	46	0	32	65	3	42	57	2	48	50	3	50	47	3
11. Did you forget to bring a lunch from home?	9	85	6	3	97	0	8	91	2	8	91	1	3	97	0
12. Did you forget to bring money or a ticket to get a whole school lunch?	18	73	9	6	91	3	16	81	3	1	98	1	7	92	1
13. Did you go home at lunchtime? (Elementary student questionnaire only)	0	94	6	--	--	--	--	--	--	--	--	--	--	--	--

Note. Respondents for this table were those who answered "No" to Question 3, "Did you eat any lunch today?" The questionnaire was designed to be given in the afternoon, after lunch. However, in 3 of 7 schools with 8th graders surveyed and 4 of 7 schools with 11th graders surveyed, the questionnaires were given before lunch; students were then instructed to read such questions as those referred to in this table as, "Are you going to eat any lunch today?", "Are you going to eat any of the following whole school lunches today: a regular school lunch, a pre-pack lunch, or a "combo lunch?", etc. Answers to such reworded questions have been considered equivalent to answers to the original questions. In one high school, however, students took the questionnaire before lunch but were not instructed to answer the "today's lunch" questions on the basis of what they expected to do at lunchtime; this high school's students are omitted from this table. Available from the author on request is a table like the present one, differing only in that it is based on the responses of students answering the questionnaire after lunch; i.e., the questions were not reworded. Results presented in the two tables are highly similar; interpretations and conclusions based on either table would be identical.

Table 11

Location Where Students Ate Breakfast
on the Day of the Survey

Question 16--A, B

Question: "Where did you eat breakfast? (Check one)"	Grade 5 (n=568) %	Grade 8		Grade 11	
		Prepack service (n=103) %	Served on site (n=199) %	Prepack service (n=101) %	Served on site (n=118) %
At home.	87	89	93	91	83
At school.	11	8	3	5	5
At another place. Please name the place[a].	3	3	5	4	12
No answer.	0[b]	0	1	0	0

Note. Respondents for this table were those who answered "Yes" to Question 15, "Did you eat any breakfast?"

[a]Other locations where students reported eating breakfast were at a fast-food restaurant (15 students), walking to school (15), at a nearby store (4), on the bus (3), at the home of a friend or relative (3), or in a car (1).

[b]n=1.

Question 17--A, B

Table 12

Student Ratings of the Taste
of 1976-77 Minneapolis School Lunches

Question: "How good do the school lunches usually taste?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
5 = Very good	8	1	0	0	3	2	2	0	3	1
4 = Good	16	4	7	3	17	8	13	3	28	6
3 = Fair	42	27	39	24	53	18	40	23	54	35
2 = Poor	13	15	23	21	17	11	21	16	6	11
1 = Very poor	13	14	20	30	6	19	18	18	6	11
I don't know	8	39	7	22	3	36	5	39	0	36
No answer	0[a]	1	4	0	1	5	2	2	3	1
	Summary statistics, M and SD									
Mean (average) of the numerical ratings, 1-5	2.9	2.4	2.4	2.0	2.9	2.4	2.6	2.2	3.1	2.6
Standard deviation of the numerical ratings, 1-5	1.1	1.0	.9	.9	.9	1.2	1.0	.9	.8	.9

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen. The present assignment of numbers to ratings, so that higher numbers represent more favorable ratings, differs from the assignment of numbers to ratings in the original questionnaire; recoding was performed. The standard deviation (SD) is an index of dispersion around the mean. Under usual circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean.

[a] n=1.

Table 13

Ratings by Boys vs. Girls Concerning the Taste of the 1976-77 Minneapolis School Lunches

Question 17--A, B

Question: "How good do the school lunches usually taste?"	Grade 5		Grade 8		Grade 11	
	Girls (n=302)	Boys (n=331)	Girls (n=231)	Boys (n=254)	Girls (n=206)	Boys (n=196)
5 = Very good	4	10	1	1	1	1
4 = Good.	15	10	6	16	9	12
3 = Fair.	36	42	44	35	39	33
2 = Poor.	17	11	19	17	10	17
1 = Very poor	12	13	12	19	12	16
I don't know.	16	13	15	11	29	19
No answer	0	0[a]	3	2	2	2
	Summary statistics, M and SD					
Mean (average) of the numerical ratings, 1-5.	3.3	3.3	3.1	3.0	3.6	3.2
Standard deviation of the numerical ratings, 1-5.	1.5	1.5	1.5	1.5	1.7	1.6

[a]At least one respondent, but less than 1%.

Question 18--A, B

Table 14

Student Ratings of the Appearance
of 1976-77 Minneapolis School Lunches

Question: "How good do the school lunches usually look?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
5 = Very good	7	1	0	0	2	2	2	1	3	0
4 = Good	17	6	5	3	14	12	3	3	23	9
3 = Fair	34	40	26	19	46	26	39	23	49	44
2 = Poor	18	22	31	35	23	22	29	31	15	21
1 = Very poor	19	25	33	33	11	25	24	32	9	12
I don't know	5	6	3	10	2	10	2	9	0	11
No answer	0[a]	1	2	0	1	3	2	2	1	4
	Summary statistics, M and SD									
Mean (average) of the numerical ratings, 1-5	2.7	2.3	2.0	1.9	2.7	2.4	2.3	2.0	2.9	2.6
Standard deviation of the numerical ratings, 1-5	1.2	1.0	.9	.9	.9	1.1	.9	.9	.9	.9

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen. The present assignment of numbers to ratings, so that higher numbers represent more favorable ratings, differs from the assignment of numbers to ratings in the original questionnaire; recoding was performed. The standard deviation (SD) is an index of dispersion around the mean. Under usual circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean.

[a] n=1.

Question 19--A, B

Table 15

Student Ratings of the Amount of Food in the School Lunch

Question: "How would you rate the amount of food in the school lunch?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
Too much food for me . . .	8	4	2	3	2	3	3	1	0	3
Just the right amount of food for me	40	26	34	27	32	24	37	23	35	25
Too little food for me . .	40	27	46	30	50	36	47	43	60	46
I don't know	12	42	17	38	15	33	11	32	3	26
No answer.	0[a]	1	2	2	1	5	2	2	3	1

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen.

[a] n=409

Table 16

Ratings by Boys vs. Girls Concerning the Amount of Food in the School Lunch

Question 19--A, B

Question: "How would you rate the amount of food in the school lunch?"	Grade 5		Grade 8		Grade 11	
	Girls (n=302)	Boys (n=331)	Girls (n=231)	Boys (n=254)	Girls (n=206)	Boys (n=196)
Too much food for me.	8	5	4	1	3	0
Just the right amount of food for me.	44	30	34	26	38	18
Too little food for me.	26	48	30	57	30	66
I don't know.	21	17	30	15	27	14
No answer	1	0	2	2	2	1

Question 20--A, B

Table 17

Student Ratings of the Cost of the School Lunch
for Those Who Paid the Full 1976-77 Price

Question: "How would you rate the cost of the school lunch for those who must pay the regular cash price of [55¢ for elementary, 65¢ for secondary] for it?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
Costs too much	41	46	67	70	66	58	76	57	65	54
Cost is just right	34	31	15	16	20	20	8	19	27	29
Costs too little	2	1	0	0	1	1	2	0	1	0
I don't know	20	21	18	14	13	17	11	21	5	16
No answer	3	1	0	0	0	3	3	2	3	1

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen.

Question 21--A, B

Table 18

Student Perceptions of How Often School Lunches Contained Foods That Were Too Cool, or Frozen

Question: "How often do the school lunches contain foods that are supposed to be hot, but instead are too cool or frozen?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
4 = Every day, or nearly every day.	9	5	14	14	9	9	13	9	6	4
3 = Sometimes.	43	40	56	43	50	36	52	26	49	31
2 = Hardly ever.	33	22	15	16	29	11	24	7	32	15
1 = Never.	7	3	6	2	5	4	3	2	8	4
I don't know	8	29	7	25	5	37	7	55	4	46
No answer.	1	1	2	0	1	3	2	2	1	0
	Summary statistics, M and SD									
Mean (average) of the numerical ratings, 1 - 4	2.6	2.7	2.9	2.9	2.7	2.8	2.8	3.0	2.6	2.6
Standard deviation of the numerical ratings, 1 - 4	.8	.7	.7	.7	.7	.8	.7	.7	.7	.7

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen. The present assignment of numbers to ratings, so that higher numbers represent more favorable ratings, differs from the assignment of numbers to ratings in the original questionnaire; recoding was performed. The standard deviation (SD) is an index of dispersion around the mean. Under usual circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean.

Question 22--A, B

Table 19

Student Perceptions of How Often School Lunches Contained Foods That Were Too Warm

Question: "How often do the school lunches contain foods that are supposed to be cold, but instead are too warm?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
4 = Every day, or nearly every day.	5	2	5	11	3	5	3	8	0	3
3 = Sometimes.	32	31	34	25	35	21	37	19	32	16
2 = Hardly ever.	32	22	34	13	43	24	37	15	48	24
1 = Never.	22	10	16	14	14	9	15	4	14	5
I don't know	9	34	12	37	5	38	7	53	5	53
No answer.	0	1	0	0	1	3	2	2	1	0
	Summary statistics, M and SD									
Mean (average) of the numerical ratings, 1 - 4	2.2	2.4	2.3	2.5	2.3	2.4	2.3	2.7	2.2	2.3
Standard deviation of the numerical ratings, 1 - 4	.9	.8	.8	1.0	.8	.9	.8	.9	.7	.8

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen. The present assignment of numbers to ratings, so that higher numbers represent more favorable ratings, differs from the assignment of numbers to ratings in the original questionnaire; recoding was performed. The standard deviation (SD) is an index of dispersion around the mean. Under usual circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean.

Question 23 --A, B

Table 20

Student Perceptions of How Often School Lunches Contained Foods That Were Too Dry or Too Hard

Question: "How often do the school lunches contain foods that are too dry or too hard?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
4 = Every day, or nearly every day.	12	13	30	35	18	16	47	19	11	11
3 = Sometimes.	45	31	50	41	59	35	31	32	66	40
2 = Hardly ever.	24	15	9	2	16	9	10	2	14	9
1 = Never.	10	5	3	0	5	3	2	1	6	1
I don't know	8	35	7	22	3	34	7	44	1	39
No answer.	1	1	2	0	0	3	5	2	1	1
	Summary statistics, M and SD									
Mean (average) of the numerical ratings, 1 - 4	2.6	2.8	3.2	3.4	2.9	3.0	3.4	3.3	2.8	3.0
Standard deviation of the numerical ratings, 1 - 4	.8	.8	.7	.5	.7	.8	.7	.6	.7	.6

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen. The present assignment of numbers to ratings, so that higher numbers represent more favorable ratings, differs from the assignment of numbers to ratings in the original questionnaire; recoding was performed. The standard deviation (SD) is an index of dispersion around the mean. Under usual circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean.

Question 24--A, B

Table 21

Student Perceptions of How Often
School Lunches Contained Vegetables That Were Too Soft or Mushy

Question: "How often do the school lunches contain vegetables that are too soft or mushy?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
4 = Every day, or nearly every day.	31	29	27	30	30	21	39	22	37	15
3 = Sometimes.	39	26	49	43	43	29	36	20	34	29
2 = Hardly ever.	16	12	8	0	13	8	5	3	15	6
1 = Never.	6	1	0	2	1	0	8	0	5	0
I don't know	8	32	12	25	12	41	13	54	9	47
No answer.	1	1	3	0	1	1	0	1	0	2
	Summary statistics, M and SD									
Mean (average) of the numerical ratings, 1 - 4	3.0	3.2	3.2	3.4	3.2	3.2	3.2	3.4	3.1	3.2
Standard deviation of the numerical ratings, 1 - 4	.9	.8	.6	.6	.7	.7	.9	.6	.9	.6

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen. The present assignment of numbers to ratings, so that nigher numbers represent more favorable ratings, differs from the assignment of numbers to ratings in the original questionnaire; recoding was performed. The standard deviation (SD) is an index of dispersion around the mean. Under usual circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean.

Table 22

Question 25--A, B

Student Perceptions of How Friendly
Were Most Adults Who Worked in the Lunchroom

Question: "How friendly are most adults who work in the lunchroom or cafeteria at your school?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
4 = Very friendly.	40	35	29	27	22	16	26	23	53	24
3 = Somewhat friendly. . . .	21	31	33	41	36	33	47	32	32	33
2 = Slightly friendly. . . .	18	17	17	21	25	20	18	17	8	21
1 = Not at all friendly. . .	11	9	10	5	10	14	5	5	1	11
I don't know or can't decide	9	8	8	5	4	14	3	22	5	11
No Answer.	1	1	3	2	3	2	2	1	1	1
	Summary statistics, M and SD									
Mean (average) of the numerical ratings, 1 - 4	3.0	3.0	2.9	3.0	2.8	2.6	3.0	2.9	3.5	2.8
Standard deviation of the numerical ratings, 1 - 4	1.1	1.0	1.0	.9	.9	1.0	.8	.9	.7	1.0

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen. The present assignment of numbers to ratings, so that higher numbers represent more favorable ratings, differs from the assignment of numbers to ratings in the original questionnaire; recoding was performed. The standard deviation (SD) is an index of dispersion around the mean. Under usual circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean.

Question 26 --A, B

Table 23

Self-Reported Extent to Which Students Threw or Gave Food Away During Lunchtime in 1976-77

Question: "How much of your lunch at school do you usually throw or give away?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
1 = I eat all of my lunch. . .	21	24	9	13	12	7	11	13	22	21
2 = I throw or give away a little	54	40	34	22	53	24	45	19	57	21
3 = I throw or give away about half	12	9	31	8	22	12	26	7	14	10
4 = I throw or give away more than half	5	5	9	10	6	2	7	5	4	1
5 = I throw or give away all, or nearly all, of my lunch.	5	5	10	11	3	5	7	2	1	0
I don't eat lunch in school	2	14	3	35	1	46	5	51	1	44
No answer.	2	4	4	2	3	4	0	2	1	3
	Summary statistics, M and SD									
Mean (average) of the numerical ratings, 1-5. .	2.2	2.1	2.8	2.8	2.3	2.5	2.5	2.2	2.0	1.9
Standard deviation of the numerical ratings, 1-5. .	1.0	1.1	1.1	1.4	.9	1.1	1.0	1.1	.8	.8

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen. The standard deviation (SD) is an index of dispersion around the mean. Under usual circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean.

Question 27--A, B

Table 24

Student Opinions Concerning the Desirability of Having a Choice of School Lunches

Question: "Should your school give students a choice of two or more different lunches each day?"	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
Yes	91	89	92	89	94	93	92	87	95	92
No.	8	8	5	10	4	4	7	11	5	4
No answer	1	3	3	2	2	3	2	2	0	4

Note. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen.

Questions pp. 3-4 (3)--A, B

Table 25

Student Ratings of Hot Foods in the 1976-77 Minneapolis School Lunch

Food item	Grade 5				Grade 8								Grade 11							
	Frequent customer (n=511)		Infrequent customer (n=147)		Prepack service				Served on site				Prepack service				Served on site			
					Frequent customer (n=121)		Infrequent customer (n=63)		Frequent customer (n=211)		Infrequent customer (n=98)		Frequent customer (n=62)		Infrequent customer (n=129)		Frequent customer (n=79)		Infrequent customer (n=140)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Meat pattie in a bun	3.0	1.3	2.5[b]	1.2[b]	2.9	1.0	2.5[a]	1.0[a]	3.0	1.2	2.9[b]	1.1[b]	2.8	1.0	2.6[b]	.9[b]	2.8	1.0	2.5[b]	1.0[b]
Hot ham and cheese sandwich	3.5	1.3	3.2[b]	1.3[b]	3.4	1.2	3.1[a]	1.2[a]	3.4	1.0	2.8[b]	1.2[b]	3.5	1.0	3.4[b]	1.1[b]	3.1	1.1	3.0[c]	1.1[c]
Chuckwagon	3.5	1.3	3.1[b]	1.3[b]	3.0	1.2	2.9[b]	1.1[b]	3.2	1.1	2.9[c]	1.2[c]	3.4	1.2	3.3[c]	1.1[c]	3.0	.9	2.9[c]	1.0[c]
Fishwich	3.3	1.4	2.9[b]	1.4[b]	2.6	1.2	2.7[b]	1.3[b]	3.2	1.1	2.8[c]	1.3[c]	2.7	1.2	2.7[b]	1.1[b]	3.2	1.3	2.9[b]	1.3[b]
Hot dog	3.8	1.2	3.3[b]	1.2[b]	3.1	1.1	3.2[a]	1.0[a]	3.5	1.0	3.3[b]	1.2[b]	2.8	1.1	2.9[b]	1.0[b]	3.4	1.0	3.1[b]	1.1[b]
Barbecued beef on a bun	2.6	1.5	2.4[c]	1.4[c]	2.4	1.2	2.2[b]	.9[b]	2.8	1.2	2.6[b]	1.3[b]	2.6	1.1	2.5[c]	1.0[c]	3.1	1.1	2.9[c]	1.2[c]
Pizza	4.4	1.0	4.1[a]	1.1[a]	3.8	1.1	4.1	1.0	4.3	1.0	3.6[b]	1.2[b]	3.3	1.2	3.1[a]	1.2[a]	3.9	1.1	3.7[a]	1.2[a]
Tacos or taco scramble, with taco sauce and cup of fixings	3.3	1.5	3.3[b]	1.4[b]	2.7	1.4	2.7[a]	1.4[a]	3.7	1.2	3.0[b]	1.4[b]	2.7	1.3	2.7[b]	1.3[b]	3.4	1.2	3.2[c]	1.1[c]
Spaghetti with meat sauce	3.6	1.3	3.3[b]	1.3[b]	3.2	1.2	2.6[a]	1.2[a]	3.1	1.2	2.6[b]	1.1[b]	2.9	1.1	2.7[b]	1.1[b]	3.6	1.2	3.1[c]	1.1[c]
Chili	3.4	1.4	3.0[c]	1.4[c]	3.1	1.2	3.0[a]	1.3[a]	3.2	1.2	2.6[b]	1.2[b]	2.9	1.1	3.2[c]	1.2[c]	3.7	1.2	3.4[b]	1.2[b]
Peas	1.7	1.1	1.7[b]	1.1[b]	1.7	0.9	1.7[a]	.9[a]	1.8	1.0	1.9[c]	1.0[c]	2.0[a]	1.0[a]	2.0[c]	1.1[c]	2.2	1.2	2.1[c]	1.1[c]
Corn	3.0	1.4	2.5[b]	1.4[b]	2.5	1.3	2.4[a]	1.3[a]	2.8	1.3	2.6[b]	1.3[b]	2.7[a]	1.1[a]	2.8[b]	1.2[b]	3.1	1.3	3.1[b]	1.1[b]
Mixed vegetables	1.8	1.2	1.8[b]	1.1[b]	1.7	.9	1.5[a]	.9[a]	1.7	.9	2.0[b]	1.0[b]	1.9[a]	.9[a]	2.1[c]	1.1[c]	2.1	1.1	2.2[c]	1.0[c]
Baked beans	2.0	1.3	1.9[b]	1.1[b]	1.7	1.0	1.7[a]	1.0[a]	2.0	1.1	2.2[b]	1.2[b]	2.1[a]	1.1[a]	2.1[c]	1.1[c]	2.3	1.1	2.4[c]	1.1[c]
French fries	3.7	1.3	3.2[b]	1.4[b]	3.2	1.1	3.1[a]	1.1[a]	3.5	1.3	3.1[b]	1.4[b]	2.5	1.1	2.5[b]	1.2[b]	3.0	1.2	3.1[a]	1.2[a]
Tri-tators (potatoes)	3.8	1.2	3.5[b]	1.2[b]	3.3	1.2	3.4[a]	1.1[a]	3.7	1.1	3.5[b]	1.2[b]	3.1	1.1	2.8[b]	1.2[b]	3.7	1.1	3.5[b]	1.1[b]
Roundabouts (potatoes)	3.3[a]	1.4[a]	3.1[c]	1.3[c]	2.9	1.3	2.9[c]	1.2[c]	3.2[a]	1.2[a]	3.0[c]	1.3[c]	2.8[a]	1.1[a]	2.6[d]	1.1[d]	3.3[a]	1.2[a]	3.1[d]	1.1[d]
Hot foods average[e]	3.2	.7	2.9[c]	.7[c]	2.8	.7	2.7[b]	.6[b]	3.1	.6	2.8[c]	.8[c]	2.7[a]	.6[a]	2.7[c]	.7[c]	3.1	.6	3.0[d]	.6[d]

Note. Students checked labeled boxes to indicate how much they liked, or thought they would like, each food, as it was served at their school. For the analysis in this table, the ratings were coded: Great = 5, Good = 4, So-So = 3, Bad = 2, Awful = 1. Students could also check a "Don't know" category; such responses were not used in computing mean ratings (or standard deviations) for food items. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen.

M = mean or average rating; SD = standard deviation of the ratings (under usual circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean); n = the number of students in each category who answered the questionnaire (although not every student answered completely). Except where noted, means and standard deviations are based on at least 91% of the respondents in a particular student category.

[a] Indicates statistics based on 81-90% of the respondents in a particular student category.
[b] Indicates statistics based on 71-80% of the respondents.
[c] Indicates statistics based on 61-70% of the respondents.
[d] Indicates statistics based on 60% or fewer of the respondents.
[e] For each student rating at least 14 (82%) of the 17 hot foods items, a hot foods average (mean) was computed. These individual means of ratings were then averaged again to provide a hot foods average for each student category.

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Table 26

Ratings of Hot Foods in the 1976-77 Minneapolis School Lunch
by Students Who Got a Whole School Lunch at Least Once a Week

Food item	Elementary (Grade 5) (n = 511)								Secondary (Grades 8 and 11 combined)															
									Prepack service (n = 183)								Served on site (n = 290)							
	5 = Great	4 = Good	3 = So-So	2 = Bad	1 = Awful	Don't know or No ans	For ratings 1-5,		5 = Great	4 = Good	3 = So-So	2 = Bad	1 = Awful	Don't know or No ans	For ratings 1-5,		5 = Great	4 = Good	3 = So-So	2 = Bad	1 = Awful	Don't know or No ans.	For ratings 1-5,	
	%	%	%	%	%	%	M	SD	%	%	%	%	%	%	M	SD	%	%	%	%	%	%	M	SD
Meat pattie in a bun.....	13	24	30	12	18	4	3.0	1.3	2	26	39	18	12	4	2.9	1.0	7	23	37	15	15	4	2.9	1.1
Hot ham and cheese sandwich.	28	26	24	8	11	4	3.5	1.3	17	32	30	12	7	3	3.4	1.1	10	32	33	10	7	7	3.3	1.1
Chuckwagon.....	27	24	24	9	11	5	3.5	1.3	10	31	29	14	13	4	3.1	1.2	9	23	40	14	8	6	3.1	1.1
Fishwich.....	23	25	20	8	16	7	3.3	1.4	5	18	33	19	21	4	2.7	1.2	11	30	32	10	12	6	3.2	1.2
Hot dog.....	31	30	20	6	7	5	3.8	1.2	7	24	40	12	13	4	3.0	1.1	13	39	32	7	6	3	3.5	1.0
Barbecued beef on a bun.....	14	12	22	11	31	9	2.6	1.5	3	19	27	19	28	4	2.5	1.2	8	25	30	17	16	5	2.9	1.2
Pizza.....	65	17	9	1	5	4	4.4	1.0	25	33	26	6	7	2	3.6	1.1	47	31	13	3	4	2	4.2	1.1
Tacos or taco scramble, with taco sauce and cup of fixings	28	20	19	10	19	4	3.3	1.5	14	17	26	16	21	6	2.9	1.4	28	26	25	9	7	5	3.6	1.2
Spaghetti with meat sauce...	29	25	23	9	10	5	3.6	1.3	13	22	37	10	14	4	3.1	1.2	15	27	29	16	10	5	3.2	1.2
Chili.....	25	22	23	11	13	6	3.4	1.4	10	24	32	15	12	7	3.1	1.2	19	26	28	13	10	4	3.3	1.2
Peas.....	3	6	12	16	57	7	1.7	1.1	1	4	17	22	46	10	1.8	1.0	3	6	16	25	46	5	1.9	1.0
Corn.....	16	21	25	11	21	7	3.0	1.4	6	13	33	16	24	9	2.6	1.2	10	23	26	16	19	5	2.9	1.3
Mixed vegetables.....	5	6	12	16	53	8	1.8	1.2	1	3	16	25	44	11	1.8	.9	2	5	15	25	48	6	1.8	1.0
Baked beans.....	6	7	16	14	50	9	2.0	1.3	2	3	16	24	46	8	1.8	1.0	2	9	22	23	37	7	2.1	1.1
French fries.....	35	23	19	7	11	4	3.7	1.3	9	20	37	16	14	3	2.9	1.2	23	26	24	13	11	2	3.4	1.3
Tri-tators (potatoes).....	34	26	19	6	8	7	3.8	1.2	15	25	37	11	10	3	3.2	1.2	27	33	25	8	5	3	3.7	1.1
Roundabouts (potatoes).....	23	21	19	9	18	10	3.3	1.4	9	18	30	16	15	12	2.9	1.2	16	21	27	12	9	15	3.3	1.2

	Descriptive statistics								
	M	SD	n	M	SD	n	M	SD	n
Hot foods average[a]	3.2	.7	477	2.8	.7	168	3.1	.6	275

Note. All elementary schools had "prepack service" at the time of the survey; that is, prepack lunches were shipped from the Nutrition Center and served daily. At some secondary schools, however, lunches were "served on site"; that is, lunches were cooked on site or bulk food was shipped daily to the school from the Franklin Junior High kitchen. The same menu items were offered in "prepack" and "on-site" secondary schools; even though the same item was served, and possibly prepared somewhat differently, under the two types of lunch service.

M = mean or average rating; SD = standard deviation of the ratings (under normal circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean); n = the number of students in each category who answered the questionnaire (although not every student answered completely).

[a] For each student rating at least 14 (82%) of the 17 hot foods items, a hot foods average (mean) was computed. These individual means of ratings were then averaged again to provide a hot foods average for each student category.

Questions pp. 3-4 (b)--A, B

Table 27

Student Ratings of Cold Foods in the 1976-77 Minneapolis School Lunch

Food item	Grade 5				Grade 8								Grade 11							
	Frequent customer (n=511)		Infrequent customer (n=147)		Prepack service				Served on site				Prepack service				Served on site			
					Frequent customer (n=121)		Infrequent customer (n=63)		Frequent customer (n=211)		Infrequent customer (n=98)		Frequent customer (n=62)		Infrequent customer (n=129)		Frequent customer (n=79)		Infrequent customer (n=140)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Carrot and celery sticks	3.4	1.3	3.0[b]	1.4[b]	2.7	1.2	2.7[a]	1.2[a]	3.1	1.2	3.2[b]	1.1[b]	2.9	1.2	3.0[b]	1.2[b]	3.3	1.1	3.4[b]	1.2[b]
Whole wheat bread and butter sandwich	2.6	1.3	2.6[c]	1.3[c]	2.2[a]	1.2[a]	2.5[b]	1.1[b]	2.7[a]	1.2[a]	2.7[b]	1.2[b]	2.6[a]	1.0[a]	2.8[b]	1.2[b]	3.2	1.1	3.1[c]	1.0[c]
White bread and butter sandwich	2.9	1.3	2.7[b]	1.3[b]	2.4	1.3	2.6[b]	1.2[b]	2.8	1.2	2.6[b]	1.2[b]	2.5[a]	1.1[a]	2.7[b]	1.2[b]	3.2	1.1	3.2[c]	1.0[c]
Dinner roll and butter	3.4	1.3	3.4[b]	1.2[b]	2.6[a]	1.2[a]	3.0[b]	1.1[b]	3.5	1.2	3.3[b]	1.2[b]	2.8	1.2	3.2[c]	1.1[c]	3.8	1.0	3.6[b]	1.0[b]
Applesauce	3.7	1.2	3.8[b]	1.1[b]	3.3	1.0	3.2[a]	1.1[a]	3.5	1.1	3.1[b]	1.1[b]	3.1[a]	.9[a]	3.3[c]	.9[c]	3.4	1.1	3.3[c]	1.1[c]
Peach slices	3.4	1.3	3.5[b]	1.3[b]	3.0	1.1	2.9[a]	1.1[a]	3.4	1.1	3.1[b]	1.1[b]	3.2	1.0	3.2[c]	1.0[c]	3.4	1.0	3.3[b]	1.0[b]
Pear half	3.7	1.2	3.5[b]	1.2[b]	3.2	1.1	3.0[a]	1.1[a]	3.6	1.0	3.2[b]	1.1[b]	3.2[a]	1.0[a]	3.3[c]	1.0[c]	3.4	1.1	3.4[b]	1.0[b]
Apricot halves	2.6[a]	1.3[a]	2.4[c]	1.4[c]	2.4	1.1	2.2[b]	1.0[b]	2.7[a]	1.2[a]	2.5[c]	1.2[c]	2.6[a]	1.1[a]	2.8[d]	1.1[d]	2.7[a]	1.1[a]	2.9[c]	1.0[c]
Mixed fruit	3.8	1.2	3.5[b]	1.3[b]	3.0	1.2	2.9[b]	1.2[b]	3.3	1.1	3.3[b]	1.1[b]	3.0[a]	1.2[a]	3.1[c]	1.1[c]	3.4	1.1	3.3[c]	1.1[c]
Banana	4.1	1.1	3.4[b]	1.3[b]	3.5	1.0	3.0[a]	1.2[a]	3.4	1.1	3.4[b]	1.1[b]	3.1	1.1	3.2[c]	1.2[c]	3.3	1.2	3.3[b]	1.1[b]
Apple	3.9	1.1	3.5[b]	1.2[b]	3.3	1.2	3.0[a]	1.2[a]	3.3	1.0	3.3[b]	1.1[b]	3.1	1.0	3.2[b]	1.1[b]	3.3	1.2	3.5[b]	1.0[b]
Tangerine	3.9	1.2	3.6[b]	1.3[b]	3.5	1.1	3.0[a]	1.2[a]	3.4	1.1	3.4[b]	1.1[b]	3.2	1.0	3.2[b]	1.1[b]	3.2	1.1	3.4[c]	1.0[c]
Orange	4.1	1.0	3.8[b]	1.1[b]	3.6	1.1	3.2[b]	1.1[b]	3.5	1.0	3.5[b]	1.0[b]	3.4	.9	3.4[b]	1.0[b]	3.4	1.0	3.6[b]	.8[b]
Pudding with topping	4.1	1.2	3.9[b]	1.4[b]	3.2	1.2	3.1[b]	1.3[b]	3.5	1.1	3.1[b]	1.3[b]	3.1	1.1	3.0[b]	1.2[b]	3.3	1.1	3.3[b]	1.1[b]
Gelatin (like Jello) with topping	3.9	1.3	3.9[b]	1.2[b]	3.2	1.3	3.0[b]	1.2[b]	3.3	1.1	3.0[b]	1.2[b]	2.9	1.1	2.9[b]	1.2[b]	3.4	1.2	3.2[b]	1.1[b]
Frosted brownie (chocolate)	4.3	1.1	4.0[b]	1.1[b]	3.6	1.2	3.5[a]	1.1[a]	4.1	1.1	3.5[a]	1.2[a]	3.2	1.2	3.1[b]	1.2[b]	3.6	1.1	3.5[b]	1.1[b]
Spicy fruit bar	3.3	1.4	2.9[c]	1.5[c]	2.8[a]	1.3[a]	2.7[b]	1.3[b]	3.2[a]	1.3[a]	3.0[b]	1.3[b]	2.9	1.2	2.9[c]	1.2[c]	3.4	1.2	3.0[c]	1.2[c]
Cereal bar	3.3[a]	1.4[a]	2.9[c]	1.4[c]	2.7[a]	1.3[a]	2.5[c]	1.2[c]	3.0[b]	1.4[b]	2.8[c]	1.2[c]	2.5[a]	1.2[a]	2.7[c]	1.2[c]	3.0[b]	1.2[b]	2.8[d]	1.1[d]
Snoopy bar (has peanut butter in it)	4.0	1.3	3.6[c]	1.4[c]	3.6	1.3	3.3[a]	1.4[a]	4.2	1.2	3.6[a]	1.3[a]	3.4	1.3	3.2[b]	1.3[b]	3.9	1.1	3.4[b]	1.3[b]
Cookie	4.1	1.2	3.5[b]	1.3[b]	3.5	1.2	3.5[a]	1.1[a]	3.9	1.0	3.1[b]	1.2[b]	3.3	1.0	3.4[b]	1.1[b]	3.6	1.1	3.6[a]	1.2[a]
Cold foods average[e]	3.6	.7	3.4[c]	.8[c]	3.1	.7	3.0[b]	.8[b]	3.4	.7	3.1[b]	.8[b]	3.0[a]	.7[a]	3.1[c]	.8[c]	3.3	.7	3.3[c]	.6[c]

Note. Students checked labeled boxes to indicate how much they liked, or thought they would like, each food, as it was served at their school. For the analysis in this table, the ratings were coded: Great = 5, Good = 4, So-So = 3, Bad = 2, Awful = 1. Students could also check a "Don't know" category; such responses were not used in computing mean ratings (or standard deviations) for food items. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen.

M = mean or average rating; SD = standard deviation of the ratings; n = the number of students in each category who answered the questionnaire (although not every student answered completely). Except where noted, means and standard deviations are based on at least 91% of the respondents in a particular student category.

[a] Indicates statistics based on 81-90% of the respondents in a particular student category.

[b] Indicates statistics based on 71-80% of the respondents.

[c] Indicates statistics based on 61-70% of the respondents.

[d] Indicates statistics based on 60% or fewer of the respondents.

[e] For each student rating at least 16 (80%) of the 20 cold foods items, a cold foods average (mean) was computed. These individual means of ratings were then averaged again to provide a cold foods average for each student category.

Question pp. 3-4 (b)--A, B

Table 28

Ratings of Cold Foods in the 1976-77 Minneapolis School Lunch
by Students Who Got a Whole School Lunch at Least Once a Week

Food item	Elementary (Grade 5) (n = 511)								Secondary (Grades 8 and 11 combined)															
									Prepack service (n = 183)										Served on site (n = 290)							
	5 = Great	4 = Good	3 = So-So	2 = Bad	1 = Awful	Don't know or No ans.	For ratings 1-5,		5 = Great	4 = Good	3 = So-So	2 = Bad	1 = Awful	Don't know or No ans.	For ratings 1-5,		Great	Good	So-So	Bad	Awful	Don't Know or No ans.	For ratings 1-5,	
	%	%	%	%	%	%	M	SD	%	%	%	%	%	%	M	SD	%	%	%	%	%	%	M	SD
Carrot and celery sticks.....	21	28	26	7	12	6	3.4	1.3	7	18	37	10	21	7	2.8	1.2	10	29	33	9	13	6	3.1	1.2
Whole wheat bread and butter sandwich.....	8	15	28	12	26	10	2.6	1.3	3	9	29	17	31	11	2.3	1.2	8	19	31	15	18	10	2.8	1.2
White bread and butter sandwich.....	12	21	25	12	21	9	2.9	1.3	4	14	28	16	30	9	2.4	1.2	7	22	36	13	16	6	2.9	1.2
Dinner roll and butter.....	21	27	23	7	13	8	3.4	1.3	6	16	31	17	20	10	2.7	1.2	20	32	27	7	7	8	3.6	1.1
Applesauce.....	32	30	20	5	8	5	3.7	1.2	7	28	44	12	5	4	3.2	.9	17	35	29	8	6	5	3.5	1.1
Peach slices.....	22	26	23	13	11	6	3.4	1.3	7	24	40	16	8	5	3.1	1.0	12	36	33	9	7	3	3.4	1.1
Pear half.....	28	29	20	7	8	7	3.7	1.2	9	28	38	10	9	5	3.2	1.1	17	41	24	10	5	4	3.6	1.0
Apricot halves.....	8	16	21	19	26	10	2.6	1.3	3	11	28	26	21	10	2.4	1.1	5	17	25	25	15	13	2.7	1.2
Mixed fruit.....	35	25	21	6	7	6	3.8	1.2	10	24	34	10	16	6	3.0	1.2	15	31	32	11	7	5	3.4	1.1
Banana.....	43	29	15	4	5	5	4.1	1.1	12	36	34	9	8	2	3.3	1.1	16	31	31	12	7	4	3.4	1.1
Apple.....	37	28	20	6	5	5	3.9	1.1	11	30	31	13	9	6	3.2	1.1	12	32	32	13	7	5	3.3	1.1
Tangerine.....	38	28	16	4	7	6	3.9	1.2	13	33	32	10	6	6	3.4	1.1	12	30	29	15	5	8	3.3	1.1
Orange.....	41	31	17	3	4	6	4.1	1.0	16	37	32	3	6	6	3.6	1.0	16	35	31	10	4	4	3.5	1.0
Pudding with topping.....	50	21	12	5	7	6	4.1	1.2	13	27	34	10	12	4	3.2	1.2	20	31	28	11	6	3	3.5	1.1
Gelatin (like Jello) with topping.....	44	24	13	6	9	6	3.9	1.3	13	24	30	13	15	5	3.1	1.3	13	33	30	11	10	3	3.3	1.1
Frosted brownie (chocolate)..	58	19	10	2	6	6	4.3	1.1	18	33	30	6	10	3	3.4	1.2	37	34	15	5	5	4	4.0	1.1
Spicy fruit bar.....	25	22	20	10	15	8	3.3	1.4	9	19	31	13	19	9	2.8	1.2	17	22	29	10	13	9	3.2	1.3
Cereal bar.....	23	21	18	12	15	11	3.3	1.4	5	16	27	15	22	15	2.6	1.2	12	16	22	13	14	22	3.0	1.3
Snoopy bar (has peanut butter in it).....	49	21	9	5	9	7	4.0	1.3	29	27	21	8	12	4	3.6	1.3	49	26	11	4	6	4	4.1	1.2
Cookie.....	46	26	12	3	6	7	4.1	1.2	18	34	30	5	10	3	3.5	1.2	28	35	25	5	5	4	3.8	1.1

Cold foods average[a]	Descriptive statistics									
	M	SD	n	M	SD	n	M	SD	n
	3.6	.7	481	3.1	.7	165	3.4	.7	272

Note. All elementary schools had "prepack service" at the time of the survey; that is, prepack lunches were shipped from the Nutrition Center and served daily. At some secondary schools, however, lunches were "served on site"; that is, lunches were cooked on site or bulk food was shipped daily to the school from the Franklin Junior High kitchen. The same menu items were offered in "prepack" and "on-site" secondary schools; even though the same item was served, and possibly prepared somewhat differently, under the two types of lunch service.

M = mean or average rating; SD = standard deviation of the ratings (under normal circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean). n = the number of students in each category who answered the questionnaire (although not every student answered completely).

[a] For each student rating at least 16 (80%) of the 20 cold foods items, a cold foods average (mean) was computed. These individual means of ratings were then averaged again to provide a cold foods average for each student category.

Questions on pp. 3-4 (c)--A, B

Table 29

Student Ratings of Milk and Milk-Based Beverages Served in the 1976-77 Minneapolis School Lunch Program

Food item	Grade 5				Grade 8								Grade 11							
	Frequent customer (n= 511)		Infrequent customer (n=147)		Prepack service				Served on site				Prepack service				Served on site			
					Frequent customer (n=121)		Infrequent customer (n=63)		Frequent customer (n=211)		Infrequent customer (n=98)		Frequent customer (n=62)		Infrequent customer (n=129)		Frequent customer (n= 79)		Infrequent customer (n= 140)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
White regular milk	3.9	1.2	3.8[a]	1.2[a]	3.6	1.3	3.6	1.3	3.6	1.2	3.4[a]	1.3[a]	3.7	1.1	4.0[a]	1.0[a]	4.2[a]	1.0[a]	4.1[a]	1.0[a]
White skim milk	2.5[a]	1.5[a]	2.7[c]	1.5[c]	2.4[a]	1.4[a]	2.7[a]	1.3[a]	2.5[a]	1.4[a]	2.9[c]	1.4[c]	3.2[a]	1.4[a]	3.7[b]	1.3[b]	3.7[b]	1.3[b]	3.6[c]	1.3[c]
Chocolate milk	4.4	1.2	3.7[a]	1.5[a]	3.9	1.2	3.8	1.3	4.0	1.2	3.9[a]	1.2[a]	3.9	1.2	4.0[a]	1.1[a]	4.1	1.1	3.9[a]	1.2[a]
Malt or milkshake[f] (students were instructed: "if this is not served at your school, check 'I don't know'.")	4.4[d]	1.0[d]	-- [e]	-- [e]	4.1	1.0	4.3[a]	.8[a]	4.2[a]	1.0[a]	3.9	1.2	3.9	.9	3.9[a]	.9[a]	4.0[a]	1.0[a]	3.9[b]	1.0[b]
Beverages average[g]	3.6[a]	.8[a]	3.3[c]	.9[c]	3.5	.8	3.6[a]	.8[a]	3.6	.8	3.6[a]	.9[a]	3.7	.8	3.9[a]	.8[a]	4.0[a]	.7[a]	3.9[a]	.8[a]

Note. Students checked labeled boxes to indicate how much they liked, or thought they would like, each food, as it was served at their school. For the analysis in this table, the ratings were coded: Great = 5, Good = 4, So-So = 3, Bad = 2, Awful = 1. Students could also check a "Don't know" category; such responses were not used in computing mean ratings (or standard deviations) for food items. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen.

M = mean or average rating; SD = standard deviation of the ratings; (under normal circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean). n = the number of students in each category who answered the questionnaire (although not every student answered completely). Except where noted, means and standard deviations are based on at least 91% of the respondents in a particular student category.

[a] Indicates statistics based on 81-90% of the respondents on a particular student category.

[b] Indicates statistics based on 71-80% of the respondents.

[c] Indicates statistics based on 61-70% of the respondents.

[d] n = 72.

[e] n = 2; statistics not stable enough to report.

[f] Malts or milkshakes were not available in elementary schools; however, they were available in all secondary schools with surveyed students. The "combo" prepack lunch, served as an alternative choice to the regular prepack in 6 secondary schools, consisted of a hot pack, a cold pack, and a malt. (The malt substituted for milk in this lunch "combination.")

[g] For each student rating at least 3 (75%) of the 4 beverage items, a beverages average (mean) was computed. These individual means of ratings were then averaged again to provide a beverages average for each student category.

Question pp. 3-4 (c)--A, B

Table 30

Ratings of Milk and Milk-Based Beverages in the 1976-77 Minneapolis School Lunch by Students Who Got a Whole School Lunch at Least Once a Week

Beverage item	Elementary (Grade 5) (n = 511)								Secondary (Grades 8 and 11 combined)															
									Prepack service (n = 183)								Served on site (n = 290)							
	5 = Great	4 = Good	3 = So-So	2 = Bad	1 = Awful	Don't know or No ans.	For ratings 1-5,		5 = Great	4 = Good	3 = So-So	2 = Bad	1 = Awful	Don't know or No ans.	For ratings 1-5,		Great	Good	So-So	Bad	Awful	Don't Know or No ans.	For ratings 1-5,	
	%	%	%	%	%	%	M	SD	%	%	%	%	%	%	M	SD	%	%	%	%	%	%	M	SD
White regular milk.....	37	30	14	4	8	7	3.9	1.2	28	31	22	4	10	4	3.7	1.2	30	32	19	4	7	8	3.8	1.2
White skim milk.....	14	14	12	10	38	12	2.5	1.5	11	15	21	11	26	16	2.7	1.4	11	17	20	9	23	20	2.8	1.4
Chocolate milk.....	64	13	7	2	7	7	4.4	1.2	37	33	14	5	8	3	3.9	1.2	42	28	13	3	8	6	4.0	1.2
Milk or milkshake[a] (students instructed: "if this is not served at your school, check 'I don't know'.")	10	2	2	0	1	86	4.4	1.0	34	36	20	2	3	6	4.0	1.0	38	29	12	4	3	15	4.1	1.0

Beverages average[b]	Descriptive statistics									
	M	SD	n	M	SD	n	M	SD	n	
	3.6	.8	438	3.6	.8	172	3.7	.8	261	

Note: All elementary schools had "prepack service" at the time of the survey; that is, prepack lunches were shipped from the Nutrition Center and served daily. At some secondary schools, however, lunches were "served on site"; that is, lunches were cooked on site or bulk food was shipped daily to the school from the Franklin Junior High kitchen. The same menu items were offered in "prepack" and "on-site" secondary schools; even though the same item was served, and possibly prepared somewhat differently, under the two types of lunch service.

M = mean or average rating; SD = standard deviation of the ratings (under normal circumstances, about two-thirds of the ratings are expected to fall within the range from 1 SD below, to 1 SD above, the mean). n = the number of students in each category who answered the questionnaire (although not every student answered completely).

[a] Malts or milkshakes were not available in elementary schools; however, they were available in all secondary schools with surveyed students. The "combo" prepack lunch, served as an alternative choice to the regular prepack in 6 secondary schools, consisted of a hot pack, a cold pack, and a malt. (The malt substituted for milk in this lunch "combination.")

[b] For each student rating at least 3 (75%) of the 4 beverage items, a beverages average (mean) was computed. These individual means of ratings were then averaged again to provide a beverages average for each student category.

Questions on pp. 3-4(d)--A, B

Table 31

Student Ratings of the 1976-77 Minneapolis Whole School Lunch, Based on Ratings of Individual Hot and Cold Food Items

Statistics	Grade 5		Grade 8				Grade 11			
			Prepack service		Served on site		Prepack service		Served on site	
	Frequent customer	Infrequent customer	Frequent customer	Infrequent customer	Frequent customer	Infrequent customer	Frequent customer	Infrequent customer	Frequent customer	Infrequent customer
Mean (average) of all numerical ratings, 1-5, for all hot and cold food items.	3.4	3.2	3.0	2.8	3.2	3.0	2.9	2.9	3.2	3.2
Standard deviation of all numerical ratings, 1-5, for all hot and cold food items	.6	.7	.7	.6	.6	.8	.6	.7	.6	.5
n on which statistics are based	464	93	108	43	191	64	53	78	73	75

Note. Students checked labeled boxes to indicate how much they liked, or thought they would like, each of a number of hot foods, cold foods, and beverages as it was served at their school. For each food or beverage, students checked a box to indicate one of the following ratings: Great = 5, Good = 4, So-So = 3, Bad = 2, Awful = 1. Students could also check a "Don't know" category; however, such responses were not used in computing means or standard deviations.

A mean rating for the whole school lunch--both hot foods and cold foods, taken together--was computed for each student rating at least 14 (82%) of 17 hot food items and at least 16 (80%) of the 20 cold food items. (Beverage ratings were not included in this mean rating for the whole school lunch.) These individual means of ratings were then averaged again to provide a whole school lunch average rating for each student category. Frequent customers were those indicating they got a whole lunch at school at least once a week; infrequent customers indicated they got a whole lunch at school less than once a week. "Prepack service" indicates students enrolled in schools where prepack lunches from the Nutrition Center were served daily; "served on site" indicates students in schools where lunches were cooked on site or where bulk food was shipped daily from the Franklin Junior High kitchen.

Mean ratings for individual food (and beverage items), and separate mean total ratings for all hot foods and all cold foods (and for 4 beverages) are presented in Tables 10, 11, and 12.

Table 32

Questions 30-42--A, B Student Suggestions for New School Lunch Foods

Questions 30-38, 42 Student reactions to new school lunch foods specifically named and listed on the questionnaire as follows: "In your opinion, which of the following other foods should be served fairly often as part of the regular whole lunch, pre-pack lunch, or 'combo' lunch? "Should the school lunches fairly often include--"	Grade 5 (n=671)			Grade 8 (n=497)			Grade 11 (n=414)		
	Yes %	No %	Don't know or no answer	Yes %	No %	Don't know or no answer	Yes %	No %	Don't know or no answer
30. Ice cream?	89	3	9	87	6	6	77	11	11
31. Corn dog?	66	20	14	66	22	12	64	18	18
32. Chinese chow mein?	38	41	21	46	37	17	56	27	17
33. Wild rice mixed with regular rice?	26	55	20	18	66	17	36	42	22
34. Cole slaw?	33	49	17	21	66	14	36	44	20
35. Chinese fried rice?	26	51	23	21	60	19	32	41	27
36. Indian fry bread with a hamburger or a hot dog inside?	38	36	27	31	42	27	30	30	40
37. Soup?	57	23	20	43	42	15	45	34	20
38. A large salad with meat, cheese, hard-cooked eggs, or other such foods on top?	37	42	21	37	46	17	55	27	19
42. Would you like to be able to make your own salad in school at lunchtime?	63	22	16	52	36	12	67	18	16
Foods students listed in response to Question (39-41): "In the space below, please name one other food that should be served fairly often as part of the regular whole lunch, pre-pack lunch, or 'combo' lunch:"									
Foods, ranked by overall frequency with which they were listed[a]	%			%			%		
Chicken, fried chicken, or other poultry	4			9			9		
Malt or milkshake[b]	14			0[c]			0		
Beef, steak, roast beef, beef sandwiches, beef stew	7			4			5		
Barbecued chicken or ribs	2			2			1		
Crunchy processed snack foods (e.g., chips, popcorn, pretzels)	3			1			1		
Sandwiches and submarines	1			2			3		
Lasagna	2			2			2		
Pop, soda, specified soft drinks	3			1			1		
Pie	3			1			0[c]		
Cake, cupcake	2			1			0[c]		
Meat, pure meat (no extenders), meat loaf, meatballs	0			2			3		
Fruit or fruit salad, not specified as fresh (e.g., pineapple)	1			1			2		
Ham, bacon, pork	1			1			1		
Fish, fried fish, tuna, other fish dishes	1			0[c]			3		
Fresh fruit (e.g., melon, fresh fruit salad, etc.)	1			1			1		
Cheese, cheese sandwiches, cottage cheese	1			0[c]			1		
Macaroni and cheese	1			1			1		
Corn, corn on the cob	1			1			0		
Fruit juice, orange juice, lemonade, etc.	1			1			1		
Commercial snack cakes; sweet rolls or donuts	0[c]			1			1		
Chocolate, candy, gum	1			1			0		
Toast, rolls and butter, French toast	1			1			1		
Shrimp, lobster, other shellfish	0[c]			1			1		
Foods already available in the school lunch	14			22			11		
New foods already rated in Questions 30-38 and 42	4			4			2		
All other foods	5			4			8		
Student wrote "don't know" or words to same effect	1			0[c]			1		
Illegible, irrelevant, or inappropriate answer	2			3			2		
No answer (student left space blank)	26			34			39		

Note. In this table the wording for Questions 30-42 has been taken from the secondary questionnaire. The corresponding elementary questionnaire instructions were identical except that the terms "pre-pack" and "combo" lunch were omitted; instead, the elementary questionnaire made reference to the "regular school lunch."

[a]Food items and food groups specified are those named by at least 1% of the total group of 1582 respondents. Percent totals within each column differ slightly from 100 because of rounding.

[b]Not available in elementary school lunches.

[c]At least 1 respondent, but less than 1% of respondents within a grade.

Questions pp. 3-4,
Questions 30-42--A, B

Table 33

Ratings of Selected School Lunch Foods, and Suggestions for New Foods, Made by Students Representing Different Racial and Ethnic Groups

Foods		White (n=1146) %	Black (n=199) %	Native American (n=60) %
		% of students rating this food item "Great" or "Good"		
Selected foods already served in Minneapolis school lunches	Barbecued beef on a bun	21	26	35
	Tacos or taco scramble, with taco sauce and cup of fixings	40	37	52
	Spaghetti with meat sauce	38	34	60
	Chili	37	35	63
	White regular milk	66	55	65
		% of students who checked "Yes" to indicate school lunch should fairly often include item		
New foods specifically named and listed on the questionnaire	Ice cream	86	92	87
	Corn dog	68	60	70
	Chinese chow mein	46	44	52
	Wild rice mixed with regular rice	27	18	33
	Cole slaw	30	33	38
	Chinese fried rice	25	31	23
	Indian fry bread with a hamburger or a hot dog inside	33	32	58
	Soup	52	43	42
	A large salad with meat, cheese, hard-cooked eggs, or other such foods on top	44	37	30
	Would you like to be able to make your own salad in school at lunchtime?	63	59	42
		Foods nominated for inclusion in the school lunch by 3% or more of the students in a racial group		
Foods students wrote in by name as "one other food that should be served fairly often as part of the regular school lunch"	Chicken, fried chicken, or other poultry	6	10	7
	Beef, steak, roast beef, beef sandwiches, beef stew	6	5	8
	Malt or milkshake[b]	6	3	5
	Barbecued chicken or ribs	1	5	2
	Commercial snack cakes; sweet rools or donuts; cake or cupcakes	3	1	2
	Meat, pure meat (no extenders), meat loaf, meatballs	1	3	2
	Pie	1	1	3
	Pop, soda, specified soft drinks	1	1	3
	Rice, or other specified rice dishes (e.g., wild rice, Spanish rice, rice and beans)	0[a]	1	3
	Toast, rolls and butter, French toast	1	0	3
	Soul food, or specified soul food items not already mentioned (e.g., chitterlings, black-eye peas, greens)	0	3	0

Note. Students were classified into racial and ethnic groups according to their answers to Question 46 (see Table 2). Groups not represented in this table were judged to have sample sizes too small to generate stable percentages.

[a]At least 1 respondent, but less than 1%.

[b]Not available in elementary school lunches.

Questions 28-34 --A, B

Table 34

Students' Self-Reported Avoidance of Certain Foods for Medical or Dental Reasons

Question 28: "Does your doctor or dentist want you to stay away from certain foods? (Do you avoid certain foods because you have allergies, a weight problem, other health problems, teeth braces, etc.?)"	Grade 5		Grade 8		Grade 11	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=332)	Infrequent customer % (n=161)	Frequent customer % (n=141)	Infrequent customer % (n=269)
Yes	16	22	12	12	18	15
No	83	76	86	88	81	83
No answer	1	2	2	1	1	2

Foods students listed in response to Question (29-34): "If you answered 'Yes' to Question (28), name some foods (up to 3 kinds) your doctor or dentist wants you to stay away from:"

Foods	Students answering "Yes" to Question 28[a]		
	Grade 5 % (n=115)	Grade 8 % (n=59)	Grade 11 % (n=67)
Meat, hamburger, pork, poultry, liver, etc.	6	3	10
Fish, fried fish	2	5	3
Pizza, spaghetti, lasagna	1	10	6
Tacos, chili	0	7	1
Oranges, other citrus fruit, lemonade, orange juice	7	2	3
Other fresh fruit	3	7	3
Other fruit, not specified as fresh	3	2	0
Tomatoes	5	2	0
Green vegetables (e.g., broccoli, spinach, peas, green beans, etc.)	2	8	3
Salads and raw vegetables (e.g., celery, carrots, etc.)	2	3	1
All other vegetables (e.g., corn, beets, etc.)	5	12	1
Potatoes, sweet potatoes, and potato dishes	1	3	3
Milk, whole milk, malt or milkshakes	6	8	4
Ice cream	6	5	7
All other dairy products (e.g., butter, cheese, eggs, etc.)	5	8	4
Cake, snack cakes, sweet rolls, donuts, etc.	8	7	6
Chocolate (e.g., in candy, baked goods, milk)	8	12	15
Cookies, bars	2	3	3
Candy, gum, caramel	43	17	10
Crunchy processed snack foods (e.g., chips, popcorn, pretzels, etc.)	3	7	4
Nuts or peanuts, peanut butter	2	7	7
Pop, soft drinks	9	5	10
High-calorie or fattening foods	1	2	4
Fried, greasy, or high-cholesterol foods	0	7	18
Sweet or sugary foods	20	25	13
Starchy foods, breads	0	3	4
Sticky or "gooey" foods	5	3	6
Hard foods	2	7	6
Salt or salty foods	1	2	4
All other foods	10	12	16
Student answered "Yes" to Question 28, but listed no foods	13	7	15

Note. See general notes to other tables for definitions of "prepack service" vs. "served on site," and "frequent" vs. "infrequent" customers. Since students were able to list up to 3 foods they avoided, for each grade level the percents of students listing various foods do not total 100. Each food item listed by a student was assigned to 1 category among a master list of 100 food categories (list available from author). In constructing the present table, infrequently used categories were combined, or incorporated into more frequently used categories. A food category was formed for this table when a particular food or group of food items was listed by 1% of the total respondents in at least one grade.

[a]Several students who answered "Yes" to Question 28, and whose food responses are included in the lower part of this table, are not included in the upper part of this table, because they did not answer a question that would categorize them as "frequent" vs. "infrequent" customers.

Questions 35-41--A, B

Table 35

Students' Self-Reported Avoidance of Certain Foods
Because of Religious, Family, or Personal Beliefs

Question 35: "Do you stay away from any other foods because of your religious, family, or personal beliefs? (Do you avoid certain foods because of your church or synagogue teachings, because you are vegetarian, or because you only eat "natural" or unprocessed foods?)"	Grade 5		Grade 8		Grade 11	
	Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=332)	Infrequent customer % (n=161)	Frequent customer % (n=141)	Infrequent customer % (n=269)
Yes	8	7	5	6	8	8
No	89	91	93	92	92	90
No answer	3	2	3	3	1	2

Foods students listed in response to Question (36-41): "If you answered 'Yes' to Question (35), name some foods (up to 3 kinds) you stay away from because of religious, family, or personal beliefs:"

Foods	Students answering "Yes" to Question 35		
	Grade 5 % (n=51)	Grade 8 % (n=25)	Grade 11 % (n=33)
Meat, meat during Lent, beef, hamburger, etc.	29	56	45
Pork, ham, bacon	14	16	9
Hot dogs	2	0	12
Other meats; fish and shellfish	8	8	6
Green vegetables (e.g., broccoli, spinach, peas, green beans, etc.)	12	16	0
All other vegetables; potatoes; sweet potatoes	12	4	3
Milk, malt or milkshake, butter	6	4	12
Sweet or sugary foods (e.g., candy, chocolate, soft drinks, etc.)	22	0	27
"Junk" foods; foods with high proportions of added sugar and fat; processed snack foods	2	4	6
Foods with artificial colors, preservatives, flavors, or sweeteners; processed foods	2	4	12
Fried, greasy, or high-cholesterol foods	0	0	6
All other foods	18	4	6
Student answered "Yes" to Question 35, but listed no foods	29	16	12

Note: See general notes to other tables for definitions of "prepack service" vs. "served on site," and "frequent" vs. "infrequent" customers. Since students were able to list up to 3 foods they avoided, for each grade level the percents of students listing various foods do not total 100. Each food item listed by a student was assigned to 1 category among a master list of 100 food categories (list available from author). In constructing the present table, infrequently used categories were combined, or incorporated into more frequently used categories. A food category was formed for this table when a particular food or group of food items was listed by 1% of the total respondents in at least one grade.

Table 36

Questionnaire item 47-53--A, B

Analysis of Written Suggestions by Students for Improving School Lunches

	Questionnaire item: "In the space below, please write one suggestion for improving school lunches:"	Grade 5		Grade 8				Grade 11			
				Prepack service		Served on site		Prepack service		Served on site	
		Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
Suggestions for improved cooking and serving	Make general improvements in the school lunches (e.g., make lunches better, better tasting, more nutritious, more appetizing; cook properly, etc.)[a]	15	20	26	33	23	35	27	32	20	17
	Do not undercook food (e.g., cook thoroughly, some French fries are raw, cook burgers longer, etc.)	1	0	1	0	1	2	0	0	1	0
	Do not overcook food(e.g., not dried out, burned, hard, etc.)	0[b]	0	3	2	1	0	0	0	1	0
	Prepare and cook food appropriately (e.g., the right amount of time, etc.)	1	0	3	5	1	2	0	2	1	0
	Foods that are supposed to be hot should be served hot	4	5	0	2	6	0	2	1	4	1
	Foods that are supposed to be cold should be served cold.	0[b]	0	0	0	1	0	0	0	0	1
	Serve food at the appropriate temperature	2	2	3	3	1	0	3	1	1	2
	Foods that are supposed to be firm or crisp should not be too soft or soggy	1	1	0	0	0	0	0	0	0	1
	Improve seasoning (usually suggested more seasoning)	0[b]	0	0	0	0	0	2	0	1	0
	Avoid using artificial flavors, colors, sweeteners, or chemicals	0	0	0	2	1	1	2	0	0	1
	Lunch offerings should be similar to those in a fast-food restaurant like MacDonald's, or a regular restaurant; or have such restaurants or an outside caterer prepare the lunches (e.g., get pizza from a "pizza place," etc.)	0[b]	1	0	0	1	1	0	1	1	1
	Improve specific, miscellaneous foods and beverages (e.g., improve jello; make pizza crust thinner and crisper, use whole taco shells, not "scramble" pieces; no butter on bread or sandwiches; thicker malts; don't water down pop or other drinks, etc.)	1	0	0	0	1	0	0	0	1	1

Note. Even though students were asked to write only one suggestion, many responses to this item consisted of more than one suggestion, or a suggestion with 2 or more separate ideas. During the content analysis, therefore, each response was first rated for the presence or absence of 4 suggestions that seemed very common. These 4 suggestions were: (a) that general improvement in the school lunches is needed; (b) that prepack lunches from the Nutrition Center should not be served in school; (c) that hamburgers (meat patties), or dishes made with hamburger, need improvement; and (d) that efforts should be made to reduce or eliminate grease in school lunch foods. After each response was rated for the presence or absence of the above 4 suggestions, the response was read again for the presence or absence of over 100 other specific suggestions known to have been written by 1 or more students. It was therefore possible (although very unlikely) that a single student's response to this questionnaire item could represent up to 5 different suggestion categories. Percents in the columns, representing students making a particular suggestion, do not therefore sum to 100. Infrequently used suggestion categories were combined, or incorporated into more frequently used categories, before the present table was constructed.

[a] Each response to the questionnaire item was rated for the presence or absence of this suggestion. See above general note to this table.

[b] Represents at least 1 respondent, but less than 1% of the respondents in a particular column group.

(Table continued on the following page)

Table 36 (continued)

Questionnaire item 47-53--A, B

Analysis of Written Suggestions by Students for Improving School Lunches

b

Questionnaire item: "In the space below, please write one suggestion for improving school lunches:"		Grade 5		Grade 8				Grade 11			
				Prepack service		Served on site		Prepack service		Served on site	
		Frequent customer % (n=511)	In-frequent customer % (n=147)	Frequent customer % (n=121)	In-frequent customer % (n=63)	Frequent customer % (n=211)	In-frequent customer % (n=98)	Frequent customer % (n=62)	In-frequent customer % (n=129)	Frequent customer % (n=79)	In-frequent customer % (n=140)
Suggestions concerning packaging, and prepack vs. on-site service.	Student, in effect, suggested that prepack lunches from the Nutrition Center should not be served in school (e.g., get rid of prepacks; cook foods in school on the same day they are served; bring back the old lunches; don't start serving prepack lunches in my school; have lunches catered by a fast-food operation (when suggestion was made by student in a prepack school); buy lunches from a different lunch company; etc.)	8	12	25	22	2	3	15	28	5	4
	Prepare lunches on site (e.g., make lunches in school instead of ordering them from a central kitchen; cook food in school on the same day it is served, etc.)	1	2	5	8	1	1	7	9	0	0
	Get rid of prepack lunches or don't start serving prepack lunches in my school.	0	0	6	5	0	0	3	4	1	0
	Participation and/or food consumption in the school lunch program are higher when the lunches aren't pre-pack	0	0	0	2	0	0	0	2	0	0
	Use real dishes and/or silverware, not plastic.	1	1	1	0	0	0	2	2	1	0
	Serve food on trays, or put both hot and cold foods on same tray	2	1	2	2	0	0	0	0	0	0
	Improve packaging in general; especially, so that dry and wet foods don't come into contact (e.g., cookie sometimes gets soggy; pack it better, etc.)	1	1	0	2	0	0	0	2	0	0
Improve appearance, taste, and nutritional value of school lunch foods	Improve appearance (e.g., should look appetizing, etc.).	1	1	1	8	0	6	5	9	3	3
	Avoid messy or sloppy serving arrangement of foods on tray or plate (includes suggestion such as, don't let food stick to trays, etc.)	1	0	1	2	0	1	0	0	0	0
	Improve taste (includes suggestions such as, tastes in the prepack sometimes blend so that one item tastes like another, etc.).	0[b]	1	2	0	2	5	2	3	0	2
	Reduce or eliminate grease in school lunch foods (e.g., less greasy hamburgers, cut down grease, grease settles in the bottom of the pre pack tray, do not serve greasy food, etc.).	3	3	6	2	1	1	5	2	0	1
	Provide foods of different textures in the same lunch (e.g., texture of all food is similar, food is mushy).	0	1	0	0	0	0	0	1	0	0
	Improve nutritional value, or improve nutritional value and taste of school lunch foods.	0	0	0	0	0	0	0	0	0	0

Note. See general note and Footnotes a and b on the first page of this extended table.

(Table continued on following page)

Questionnaire item 47 - 53--A, B

Table 36 (continued)

Analysis of Written Suggestions by Students for Improving School Lunches

c

Questionnaire item: "In the space below, please write one suggestion for improving school lunches:"		Grade 5		Grade 8				Grade 11			
				Prepack service		Served on site		Prepack service		Served on site	
		Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
Offer greater choice	Offer a greater choice of foods in school, or in the school lunch (e.g., let us choose what we want; smorgasbord or cafeteria style; a choice of hot and cold packs; offer a choice of 2 or more different whole lunches; etc.)	7	8	4	5	6	4	5	5	3	4
	Make sure that advertised or expected whole lunch menu is available (e.g., menu is sometimes changed without notice; make enough "combo" lunches for everybody who wants them; don't serve yesterday's prepacks or food; etc.)	0	0	1	3	1	0	0	1	4	0
	Offer a greater choice of foods in the a la carte or snack bar line (e.g., more variety in sandwiches etc.)	0	0	1	0	1	0	2	1	3	1
	Don't require students to take food they won't eat	0	0	0	0	0	1	0	1	0	1
Portion size, cost, and value	Increase portion size (e.g., serve larger lunches, serve seconds, serve two hot packs, etc.)	4	3	3	2	7	4	0	2	8	4
	Reduce the cost of lunches or other food to students	0	0	0	2	2	4	3	2	5	4
	Serve more food for the same school-lunch price: or specific items are too expensive (e.g., costs too much for what you get; the snack bar hamburger is too expensive for the little meat you get; hamburgers are cheaper at Burger King, etc.)	0	0	2	0	3	2	0	1	4	1
Consider student food preferences and suggestions	Make student preferences the basics for menu selection (e.g., have surveys like this more often; serve what students want, not what adults think they should have; remove generally disliked items from the menu; etc.)	3	2	0	0	2	1	3	1	0	3
	School lunches should contain foods similar to those found in popular fast-food operations (e.g., MacDonald's, Burger King, etc.) or restaurants	1	3	1	0	0	0	0	0	0	0
	Make appropriate seasonal variations in the menu (e.g., hot foods on cold days, cold on hot days; cocoa in winter and pop in summer; etc.)	0	0	0	0	0	0	2	0	1	1

Note. See general note on first page of this extended table.

[b] Represents at least 1 respondent, but less than 1% of the respondents in a particular column group.

(Table continued on following page)

Questionnaire item 47 - 53--A, B

Table 36 (continued)
Analysis of Written Suggestions by Students
for Improving School Lunches

d

Questionnaire item: "In the space below, please write one suggestion for improving school lunches:"		Grade 5		Grade 8				Grade 11			
				Prepack service		Served on site		Prepack service		Served on site	
		Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
Improve quality of ingredients	Hamburgers (meat patties), or dishes made with hamburger, need improvement (e.g., improve taste of hamburgers, don't use soy filler, less greasy hamburgers, make hamburgers with all beef, terrible hamburgers in tacos, etc.)[a]	4	2	4	6	5	2	3	5	5	5
	Make burgers entirely from beef; do not use any extenders, such as soy protein	1	1	2	2	3	1	2	2	5	4
	Hamburgers should be less greasy.	0	0	2	0	0	0	2	0	0	0
	Buy better meats and meat products.	1	1	0	0	1	0	0	0	0	1
	Serve more meat per meal; or serve meat more frequently (e.g., more meat, etc.).	0[b]	0	0	0	1	2	0	0	0	0
	Use higher quality ingredients; improve food quality (e.g., use real whipped cream; use real spaghetti sauce; fruit are bruised, etc.).	0[b]	0	0	5	2	1	3	1	3	2
	Fruits and/or vegetables should be fresh and appropriately ripe (e.g., not overripe; not underripe, etc.).	1	2	0	2	1	4	0	3	1	2
	Serve whole fresh fruit--not halves of fruit (e.g., "they get dry.")	0[b]	1	1	0	0	0	0	0	0	0
	Bread and rolls should be fresher; avoid stale, hard, or soggy baked goods (e.g., soggy buns; stale chips; rolls should be softer and warmer; etc.)	1	0	3	2	1	0	3	1	1	1
Improve food service operation and policies (continued on next page)	Improve staff quality (e.g., get different cooks or train cooks better; employ friendlier cafeteria workers, etc.)	1	2	3	0	2	3	2	0	0	2
	Improve cleanliness and hygiene (e.g., exterminate insects; workers should not touch food directly; no dirty plates, tables; etc.)	0[b]	0	0	0	1	11	0	1	0	1
	Increase the length of the lunch period	1	1	1	0	2	0	0	0	1	1
	Serve students faster (e.g., shorter lines; don't call us by tables; serve food as soon as students arrive in lunchroom; etc.)	0	1	1	0	1	4	2	0	1	4

Note. See general note on first page of this extended table.

[a] See Footnote a on the first page of this table.

[b] Represents at least 1 respondent, but less than 1% of the respondents in a particular column group.

(Table continued on following page)

Questionnaire item 47 - 53--A, B

Table 36 (continued)

Analysis of Written Suggestions by Students for Improving School Lunches

Questionnaire item: "In the space below, please write one suggestion for improving school lunches:"		Grade 5		Grade 8				Grade 11			
				Prepack service		Served on site		Prepack service		Served on site	
		Frequent customer % (n=511)	Infrequent customer % (n=147)	Frequent customer % (n=121)	Infrequent customer % (n=63)	Frequent customer % (n=211)	Infrequent customer % (n=98)	Frequent customer % (n=62)	Infrequent customer % (n=129)	Frequent customer % (n=79)	Infrequent customer % (n=140)
Improve food service operation and policies (continued)	Reduce noise or improve discipline in lunchroom.	0[b]	1	0	0	0	0	0	0	0	1
	Improve lunchroom facilities (e.g., build a larger lunchroom; need a new lunchroom; have separate facilities for handicapped students; etc.).	1	0	0	0	0	0	0	0	0	1
	Deliver lunches to school the same day they are cooked, for consumption the same day.	0	0	2	2	0	0	0	0	0	0
	Change other procedures and policies (e.g., concerning eligibility for free or reduced price lunches; self-selected seating in lunchroom; allow purchase of lunch without advance notice; have open campus at lunch time; single line for whole lunch, and snacks; change time or length of lunch period; etc.)	1	0	1	2	0	0	0	2	0	1
Improve other specific foods, or change general menu emphases (suggestions for new menu items are presented in a separate table)	Serve more low-calorie, diet foods (e.g., serve dietetic lunch; serve low-calorie salad dressing; fewer starchy foods; etc.).	0	0	0	0	0	0	2	0	1	2
	Serve smaller portions of vegetables (e.g., easy on the vegetables; get rid of vegetables, especially peas; etc.)	0[b]	1	0	0	1	0	2	0	3	0
	Offer a greater variety of desserts; and/or offer a dessert choice on the school lunch.	0[b]	1	0	2	1	0	0	0	0	0
	Serve "natural" or unprocessed food more frequently (e.g., white bread sandwiches should never be served)	0	0	0	0	0	0	0	1	0	1
	Increase the availability of condiments and other seasonings (e.g., more catsup and mustard in cold pack or with food, etc.)	1	0	0	0	1	0	0	0	1	0
	Serve a greater choice of milk (e.g., skim, regular, chocolate; chocolate milk more often, not just once a week).	2	1	0	0	0	0	0	0	0	0
	Other general menu recommendations (e.g., get rid of specific named foods; serve larger cartons of milk etc.)	0[b]	0	0	0	1	1	0	0	0	0

Note. See general note on first page of this extended table.

[b]Represents at least 1 respondent, but less than 1% of the respondents in a particular column group.

(Table continued on the following page.)

Table 36 (continued)
Analysis of Written Suggestions by Students
for Improving School Lunches

Questionnaire item: "In the space below, please write one suggestion for improving school lunches:"		Grade 5		Grade 8				Grade 11			
				Prepack service		Served on site		Prepack service		Served on site	
		Frequent customer % (n=511)	In-frequent customer % (n=147)	Frequent customer % (n=121)	In-frequent customer % (n=63)	Frequent customer % (n=211)	In-frequent customer % (n=98)	Frequent customer % (n=62)	In-frequent customer % (n=129)	Frequent customer % (n=79)	In-frequent customer % (n=140)
General evaluative comments	No improvement is needed (e.g., want it to stay the way it is; good; etc.)	2	0	0	0	2	0	0	2	3	1
	Negative general evaluation of the school lunch (e.g., lunches are bad; we're dying in there; I hate them; start them all over again; junk; etc.)	1	1	3	3	1	1	2	2	0	0
	Don't serve lunches at school (e.g., drop the lunch program, don't serve it, etc.)	0	1	3	2	0	1	0	1	1	3
	School lunches should more adequately promote health (e.g., think about economy of body; lunches are hazardous to your health; more of healthy food; less junk food; etc.)	0	0	0	0	0	0	0	1	1	1
Miscellaneous comments and suggestions	Ambiguous or illegible comment (e.g., more "hot" food: "some good, some bad"; etc.)	1	0	2	2	1	0	2	1	0	3
	Comment is inappropriate to this question, being neither a suggestion or even a general evaluation (e.g., suggestions for new menu items, even though a previous question solicited such new-food suggestions; comment indicating refusal to answer; etc.)	9	5	2	2	6	7	3	4	5	6
	I don't know (e.g., no suggestions, none, nothing, etc.)	3	6	3	6	1	0	0	2	1	1
	Clearly frivolous, obscene, or irrelevant answer with no discernible attempt to improve or evaluate school lunches	0[b]	1	0	0	0	1	0	1	0	1
All other suggestions		1	1	0	2	1	1	2	2	0	2
No answer (student left space blank or drew a picture with no labels)		27	29	30	18	27	19	32	24	22	24

Note. See general note on first page of this extended table.

[b]Represents at least 1 respondent, but less than 1% of the respondents in a particular group.

Question 1--C
Principals' Questionnaire

Table 37

Principals' Estimates of the Proportion of Students Who Eat Lunch in the Cafeteria or Lunchroom

Question: "What proportion of your students usually eat lunch in the cafeteria or lunchroom? (Check one)"	School type				
	Elementary (n=58) %	Junior high (n=12) %	Senior high (n=8) %	Secondary total[a] (n=22) %	City total[b] (n=82) %
5 = All or nearly all.	71	92	13	55	66
4 = More than half	7	0	50	23	11
3 = About half	5	8	25	14	9
2 = Less than half	9	0	0	5	7
1 = Few or none.	2	0	0	0	1
I don't know	0	0	0	0	0
No answer.	7	0	13	5	6
	Summary statistics, M and SD				
Mean (average) of the numerical ratings, 1-5.	4.5	4.8	3.9	4.3	4.4
Standard deviation of the numerical ratings, 1-5.	1.1	.6	.7	.9	1.0

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a]Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b]Includes responses of principals at 1 middle school and 1 K-12 free school.

Questions 2-4--C
Principals'
Questionnaire

Table 38
School Policies Concerning
Where Students May Eat Lunch

Questions concerning policies	School Type														
	Elementary (n = 58)			Junior high (n = 12)			Senior high (n = 8)			Secondary total[a] (n = 22)			City total[b] (n = 82)		
	Yes %	No %	No ans. %	Yes %	No %	No ans. %	Yes %	No %	No ans. %	Yes %	No %	No ans. %	Yes %	No %	No ans. %
2. Are your students allowed to go to their homes at lunchtime?	41	57	2	83	17	0	75	13	13	82	14	5	52	45	2
3. Are your students allowed to leave the school grounds at lunchtime to go places other than home?	2	95	3	17	83	0	75	13	13	46	50	5	15	82	4
4. Do some or all of your students usually eat in their classrooms?. .	14	81	5	0	100	0	0	88	13	0	96	5	10	85	5

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire or which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a] Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b] Includes responses of principals at 1 middle school and 1 K-12 free school.

Questions 5, 12--C
Principals'
Questionnaire

Table 39
School Policies or Practices
Concerning Integration of Adults and Students
in the Lunch Line or the Lunchroom

Questions concerning policies	School Type														
	Elementary (n = 58)			Junior high (n = 12)			Senior high (n = 8)			Secondary total[a] (n = 22)			City total[b] (n = 82)		
	Yes %	No %	No ans. %	Yes %	No %	No ans. %	Yes %	No %	No ans. %	Yes %	No %	No ans. %	Yes %	No %	No ans. %
5. Do students and adults eat lunch in the same room at the same time? . .	9	90	2	8	92	0	13	75	13	14	82	5	11	87	2
12. Does your school have separate lunch lines for students and adults?	17	76	7	50	50	0	50	38	13	50	46	5	26	68	6

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire or which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a] Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b] Includes responses of principals at 1 middle school and 1 K-12 free school.

Table 40

Questions 7-11, 13--C Principals' Questionnaire

Lunchtime Procedures and Policies That May Affect the Speed With Which Students Eat

Questions concerning policies	School type: Elementary (n=58) Yes %	Elementary (n=58) No %	Elementary (n=58) No ans. %	Junior high (n=12) Yes %	Junior high (n=12) No %	Junior high (n=12) No ans. %	Senior high (n=8) Yes %	Senior high (n=8) No %	Senior high (n=8) No ans. %	Secondary total[a] (n=22) Yes %	Secondary total[a] (n=22) No %	Secondary total[a] (n=22) No ans. %	City total[b] (n=82) Yes %	City total[b] (n=82) No %	City total[b] (n=82) No ans. %
9. Do students who eat in school have a recess or recreational period shortly before lunch?	16	81	3	0	92	8	0	88	13	0	91	9	11	84	5
10. Do students who eat in school have a recess or recreational period right after lunch?	91	7	2	50	50	0	0	88	13	27	68	5	74	23	2
11. If you answered "Yes" to Question (10), do students have a longer recess or recreational period the faster they eat? Skip this question if you answered "No" to Question (10) . . .	41	45	14	17	33	50	0	0	100	9	18	73	33	37	31

7-8. In the space below, write the maximum amount of time a student has to eat lunch:

	%	%	%	%	%
15-19 minutes . . .	3	0	0	0	2
20-24 minutes . . .	12	0	0	0	9
25-29 minutes . . .	7	25	13	18	10
30 minutes exactly.	71	75	63	73	72
31-40 minutes . . .	2	0	13	5	1
No answer	5	0	13	5	5
	Summary statistics for Item 7-8, M and SD, in minutes				
Mean.	28.0 min.	29.2 min.	30.7 min.	29.8 min.	28.5 min.
Standard deviation.	4.2 min.	1.7 min.	4.5 min.	2.9 min.	3.9 min.

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a]Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b]Includes responses of principals at 1 middle school and 1 K-12 free school.

(Table continued on the following page)

Table 40 (continued)

Lunchtime Procedures and Policies That May Affect the Speed With Which Students Eat

Questions 7-11, 13--C
Principals' Questionnaire

Questions concerning policies (continued)	School Type				
	Elementary (n = 58) %	Junior high (n = 12) %	Senior high (n = 8) %	Secondary total[a] (n = 22) %	City total[b] (n = 82) %
13. When may a student get up and leave the table at which he/she has been eating?					
As soon as he/she is finished eating.	16	58	75	68	32
After a specific minimum amount of time has passed. Please write this amount of time if applicable: _____ minutes[c]	55	33	0	18	44
After all students sitting at the same table have finished eating.	5	0	0	0	4
Some other policy determines when a student may get up and leave the table. Please describe any such policy:[d] . . .	17	8	13	9	15
No answer	7	0	13	5	6

Note. See general note on first page of this extended table.

[a,b]See Footnotes a and b on the first page of this table.

[c]Among 32 elementary schools with this policy, the minimum time was 15 minutes for 20 schools, 10 minutes (3 schools), 12 minutes (1), 17 minutes (2), 20 minutes (3), 21 minutes (1), 30 minutes (2). Only 4 secondary schools, all junior highs, had a specific minimum eating time: 15 minutes (2 schools), 10 minutes (1), and 1 principal did not specify the minimum time.

[d]Among 10 elementary schools with some other policy, the policy was described as: the nature or behavior of the student group, or the lunchroom aide's decision, determined when students could get up (9 schools). Such other elementary policies also included: students leaving when most peers were finished, students staying in the room for the entire lunch period, etc.

Table 41

Students Not Presently Receiving Free or Reduced-Price Lunches Who Would Be Eligible If They Applied: Do Such Students Exist and Why?

Questions 21, 22-29--C
Principals' Questionnaire

Questions	School type														
	Elementary (n=58)			Junior high (n=12)			Senior high (n=8)			Secondary total[a] (n=22)			City total[b] (n=82)		
	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %
21. Are there some students in your school, not presently receiving free or reduced-price lunches, who would be eligible if they applied?.	22	28	50	8	17	75	75	13	13	36	14	50	27	23	50

Reasons principals listed in response to Question (22-29): "If you answered 'Yes' to Question (21), please explain why you think these students haven't applied for a free or reduced-price lunch:"

Reasons	Principals answering "Yes" to Question 21				
	(n=13)	(n=1)	(n=6)	(n=8)	(n=22)
	Table entries here are n's, since %'s judged too unstable to report				
Family pride; don't want "welfare". .	6	1	3	4	10
Form not filled out; forgot or decided not to.	2	0	1	1	4
Parent did not understand that family income data on form is confidential.	2	0	0	0	2
Other: family has specific food preferences; child does not eat in school; school's fault	2	0	2	3	5
No reason given, despite "Yes" answer to Question 21.	1	0	0	0	1

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "Don't know" category.

[a]Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b]Includes responses of principals at 1 middle school and 1 K-12 free school.

[c]Includes the 2 principals who did not answer the questionnaire (see general note above).

Questions 30-38--C
Principals'
Questionnaire

Table 42
Procedures Schools Follow
When Students Have No Lunch, and
Have Made No Provision To Get Lunch

Questions: "Suppose a student comes to your school with no lunch and no money to buy lunch. Furthermore, this child has not been approved as eligible for a free or reduced-price lunch. Under these circumstances, would your school--"	School type														
	Elementary (n=58)			Junior high (n=12)			Senior high (n=8)			Secondary total[a] (n=22)			City total[b] (n=82)		
	Yes %	No %	It de- c pends %	Yes %	No %	It de- c pends %	Yes %	No %	It de- c pends %	Yes %	No %	It de- c pends %	Yes %	No %	It de- c pends %
30. Give the student a whole school lunch?	57	7	29	17	33	50	63	25	0	41	27	27	52	12	29
31. Give the student a peanut butter sandwich?.	17	33	29	0	75	8	0	25	0	0	59	5	13	39	22

Principals' written descriptions of procedures and policies school would follow in dealing with this problem of a student who had made no provision for receiving a lunch (includes answers to open-ended item 32-38, as well as explanations following the response, "It depends," to Questions 30 and 31).

Procedures and policies	%[d]	%[d]	%[d]	%[d]	%[d]
Student would receive lunch as a gift, and/or cost would be charged to Minneapolis local school budget, if there were any lunches left over . .	28	17	13	18	26
Student would be given a peanut butter sandwich or some similar item.	27	0	0	0	21
Student would receive lunch, but cost would be a loan from staff to be paid later by student	16	8	25	18	16
Contact the home; or have social worker follow up problem . .	16	8	0	5	13
Procedure depends on individual case, the home situation, or the reason given.	7	17	0	9	7
Milk and sandwich would be given.	7	0	0	0	5
Procedure depends on how frequently problem occurs	7	0	0	0	5
Student would go home. .	3	0	0	0	2
Talk to student, explain procedure; probably a new student	3	0	0	0	2
Other: student goes without; siblings can often share; schools can't give food away; etc....	19	8	13	14	17

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire or which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire. Principals not answering Questions 30, 31, or 32-38, as well as the 2 principals not completing a questionnaire, are not included in this table; i.e., the "no answer" categories found in other tables are not included here, but "no answer" %'s can be obtained by subtraction.

[a] Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.
[b] Includes responses of principals at 1 middle school and 1 K-12 free school.
[c] Principals checking "It depends" were asked to "Please explain."
[d] Each principal could list more than 1 policy or procedure; %'s need not total 100.

Question 39--C
Principals'
Questionnaire

Table 43

Principals' Knowledge of Visits During 1976-77
by School Lunch Supervisors From the
Minneapolis Public Schools'
Nutrition Center

Question: "How often this year has a school lunch supervisor from the Nutrition Center staff visited your school and talked with people from your staff about your school lunch program? (Check one)"	Elementary (n=58) %	Junior high (n=12) %	Senior high (n=8) %	Secondary total[a] (n=22) %	City total[b] (n=82) %
Over 10 times.	3	0	0	5	4
6-10 times	5	8	0	9	6
3-5 times.	31	25	38	27	29
0-2 times.	35	50	13	32	33
Never.	10	8	0	5	10
I don't know	9	8	38	18	12
No answer.	7	0	13	5	6

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a]Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b]Includes responses of principals at 1 middle school and 1 K-12 free school.

Table 44

Principals' Perceived Need for More Information About Government Lunch Regulations

Question 40--C
Principals' Questionnaire

Question: "Do you think you need more information concerning the federal, state, and local regulations that apply to the school lunch program at your school?"	Elementary (n=58) %	Junior high (n=12) %	Senior high (n=8) %	Secondary total[a] (n=22) %	City Total[b] (n=82) %
Yes	21	17	13	14	18
No	71	83	63	77	72
I don't know	7	0	13	5	7
No answer	2	0	13	5	2

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a]Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b]Includes responses of principals at 1 middle school and 1 K-12 free school.

Table 45

Questions 41-49--C Principals' Questionnaire

Lunchroom Equipment: Principals' Perceptions of Current Adequacies and Needs

Questions: "Does your lunchroom or cafeteria have"--	School type														
	Elementary (n=58)			Junior high (n=12)			Senior high (n=8)			Secondary total[a] (n=22)			City total[b] (n=82)		
	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %
41. Food heating equipment (for re-heating already cooked foods and holding them at the right serving temperature) adequate for the current needs of your school lunch program?. .	91	5	3	83	8	8	75	13	13	82	9	9	89	6	5
42. Refrigeration and freezing equipment adequate for the current needs of your school lunch program?. .	76	21	3	100	0	0	88	0	13	96	0	5	82	15	4
43. Furniture (tables, chairs, serving counters, etc.) adequate for the current needs of your school lunch program?.	85	12	3	83	17	0	50	38	13	73	23	5	82	15	4

(44-49) In the space below, please describe any heating equipment, refrigeration equipment, furniture, or other equipment your school now needs for the school lunch program:

	Because only about ¼ of the principals specified any equipment needs in writing, entries in this part of the table are n's; %'s were judged too unstable to report.				
Improved refrigeration or freezing equipment (e.g., larger, newer; more freezer space in refrigerator) . .	6	0	0	0	6
New tables or chairs.	2	0	3	3	5
Larger or newer lunchroom	1	1	1	2	3
Stove or oven needs (e.g., stove not yet connected; larger oven). . .	2	0	0	0	2
Nothing is needed.	4	0	0	0	5
Other needs or comments (e.g., need lunch-line equipment; get rid of dishwasher). .	1	1	0	1	2

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "Don't know" category.

[a]Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b]Includes responses of principals at 1 middle school and 1 K-12 free school.

[c]The "Don't know" category also includes, for this table, those principals who gave no answer to a particular question, or who did not complete a questionnaire (see general note above).

Questions 50-52--C
Principals' Questionnaire

Table 46

Principals' Perceptions of Nutrition Education Efforts in Their Schools

Questions	School type: Elementary (n=58)			Junior high (n=12)			Senior high (n=8)			Secondary total[a] (n=22)			City total[b] (n=82)		
	Yes %	No %	No ans.[c] %	Yes %	No %	No ans.[c] %	Yes %	No %	No ans.[c] %	Yes %	No %	No ans.[c] %	Yes %	No %	No ans.[c] %
50. Are there any posters or printed materials on good nutrition now on display in your school where they can be read by students during lunchtime? . .	72	22	5	33	67	0	50	38	13	41	55	5	63	32	5
52. Do you think your school should teach all students the nutritional value of various foods served in your school's lunch program? . . .	76	12	12	75	17	8	38	25	38	64	18	18	73	13	13
	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %	Yes %	No %	Don't know[c] %
51. Do any teachers in your school teach your students the nutritional value of various foods served in your school's lunch program?	86	3	10	67	33	0	50	25	25	59	32	9	78	12	10

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a] Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b] Includes responses of principals at 1 middle school and 1 K-12 free school.

[c] The "No answer" and "Don't know" categories also include those principals who gave no answer, or who did not complete a questionnaire (See general note above).

Questions 53-60--C
Principals'
Questionnaire

Table 47

Efforts by Minneapolis Public Schools During 1976-77 to Increase Participation in the School Lunch Program

Question 53: "Have there been any efforts at your school this year to improve participation in the school lunch program?"	School type				
	Elementary (n=58) %	Junior high (n=12) %	Senior high (n=8) %	Secondary total[a] (n=22) %	City total[b] (n=82) %
Yes	35	33	63	50	38
No	60	58	25	41	56
No answer	5	8	13	9	6

Efforts described in response to Question (54-60), "If you answered 'Yes' to Question (53), please describe the efforts to increase participation in the lunch program:"

Efforts	Principals answering "Yes" to Question 53[c]				
	n[d]	n[d]	n[d]	n[d]	n[d]
Educational activities, promotion	9	1	1	2	11
Assess food preferences	4	2	2	4	8
Encourage or reward clean dishes	8	0	0	0	8
Publicize the menu	4	0	1	2	6
Organize a student advisory committee, or involve students	0	2	2	4	4
Change the menu	0	1	1	3	3
Recruit students eligible for free or reduced-price lunches	1	0	0	1	2
Offer choices; maintain a snack line	0	0	1	2	2
Improve staff	0	1	0	1	1
Other	4	1	0	1	5

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a]Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b]Includes responses of principals at 1 middle school and 1 K-12 free school.

[c]Because only 38% of the principals indicated efforts to improve participation by answering "Yes" to Question 53, entries in this part of the table are n's; %'s were judged too unstable to report.

[d]Because each principal could describe more than one effort to increase participation, n's in this table section need not total the n's answering "Yes" to Question 53.

Table 48

Principals' Attitude Toward the School Giving Students a Choice of Two or More Lunches Daily

Question 61--C
Principals' Questionnaire

Question: "Should your school give students a choice of two or more different lunches each day? (Your school may be doing this already, but should this choice be offered?)"	Elementary (n=58) %	Junior high (n=12) %	Senior high (n=8) %	Secondary total[a] (n=22) %	City total[b] (n=82) %
Yes	45	100	75	91	59
No	43	0	13	5	32
No answer	12	0	13	5	10

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a]Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b]Includes responses of principals at 1 middle school and 1 K-12 free school.

Table 49

Item 62-66--C Principals' Written Suggestions for Increasing Participation in the School Lunch Program

Item: "In the space below, please write one suggestion for increasing the number of students at your school who get a whole school lunch"	School type				
	Elementary (n=58) %	Junior high (n=12) %	Senior high (n=8) %	Secondary total[a] (n=22) %	City total[b] (n=82) %
Improve overall quality or taste; make the lunches better[c]	16	33	25	27	21
Serve popular foods; base menu selection on student surveys[c]	14	0	13	5	11
Decrease price	16	0	0	0	11
Give everyone a free lunch	10	0	13	5	9
Improve the appearance of the lunches; make them more appealing[c]	5	17	13	14	7
Do not serve prepack lunches	2	25	13	23	7
Offer more food choice in the lunch	5	0	13	5	5
Offer more food variety	3	0	0	0	2
Provide more food or seconds	3	0	0	0	2
Make the amount of food more appropriate	3	0	0	0	2
Change governmental regulations	0	8	13	9	2
Other suggestions: provide elementary a la carte line; add a specific named food; avoid unannounced menu changes	10	8	0	5	9
No change needed; fine as is	2	0	0	0	1
No answer	31	33	25	32	31

Note. Even though principals were asked to write only one suggestion, a number of responses to this item consisted of more than one suggestion. During content analysis, therefore, each response was first rated for the presence or absence of 3 common suggestions: (a) improve overall quality or taste, make the lunches better; (b) improve the appearance of the lunches, make them more appealing; and (c) serve popular foods, base menu selection on student surveys. Each response was then read again for possible inclusion in 1 of 14 additional categories. Since a single response to this item could conceivably represent up to 4 different suggestion categories, percents in each column do not necessarily total 100.

Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a] Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b] Includes responses of principals at 1 middle school and 1 K-12 free school.

[c] Each response to this item was rated for the presence or absence of this suggestion. See general note above.

Item 67-71--C

Table 50

Principals' Written Suggestions for Decreasing Food Waste or Giveaway in the School Lunch Program

Item: "In the space below, please write one suggestion for decreasing the amount of school lunch food that your students throw or give away:"	School type				
	Elementary (n=58) %	Junior high (n=12) %	Senior high (n=8) %	Secondary total[a] (n=22) %	City total[b] (n=82) %
Offer students more choice in food or quantity[c]	22	17	13	18	21
Improve overall quality of lunches	19	33	13	23	21
Abandon disliked menu items[c]	14	8	25	14	15
Improve the appearance of the school lunches; make them more appealing[c]	12	8	0	5	10
Improve Nutrition Center supervision (e.g., increase...control; delivery system poor; don't have unannounced menu changes)	7	0	0	0	5
Obtain student opinions through surveys or student advisory committees	3	8	0	5	4
Reward or encourage high consumption	4	0	0	0	3
Other suggestions and comments: lunches soggy when foods mix; don't serve prepacks; let school plan own menu; specific food suggestions; have elementary a la carte line; no changes needed; ambigous comment; etc	25	17	13	18	22
No answer	16	17	38	27	19

Note. Even though principals were asked to write only one suggestion, a number of responses to this item consisted of more than one suggestion. During content analysis, therefore, each response was first rated for the presence or absence of 4 common suggestions: (a) Offer students more choice in food or quantity; (b) Abandon disliked menu items; (c) Improve the appearance of the lunches; make them more appealing; and (d) Obtain student opinions through surveys or student advisory committees. Each response was then read again for possible inclusion in 1 of 19 additional categories. Since a single response to this item could conceivably represent up to 4 different suggestion categories, percents in each column do not necessarily total 100.

Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a]Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b]Includes responses of principals at 1 middle school and K-12 free school.

[c]Each response to this item was rated for the presence or absence of this suggestion. See general note above.

Question 6--C
Principals' Questionnaire

Table 51

Principals' Estimates of the Size of Student Eating Groups in School at Lunchtime

Question: In your school at lunchtime, what is the average size of each group of students eating in the same room at the same time?	School type				
	Elementary (n=58) %	Junior high (n=12) %	Senior high (n=8) %	Secondary total[a] (n=22) %	City total[b] (n=82) %
0 - 20 students	0	0	0	0	0
21 - 50 students	12	0	0	0	9
51 - 100 students	26	0	0	0	20
101 - 200 students	57	33	0	23	46
201 - 300 students	3	42	25	32	11
301 - 400 students	0	25	38	27	9
Over 400 students	0	0	25	14	4
The groups vary so much in size that an average is not meaningful	0	0	0	0	0
No answer	2	0	13	5	2

Note. Principals for 80 of 82 regular Minneapolis Public School programs completed the questionnaire on which this table is based; 1 elementary and 1 high school principal did not complete a questionnaire, and these 2 are included in the "No answer" category.

[a]Includes responses of principals at 2 junior-senior highs, as well as principals in junior highs and senior highs.

[b]Includes responses of principals at 1 middle school and 1 K-12 free school.

Figures

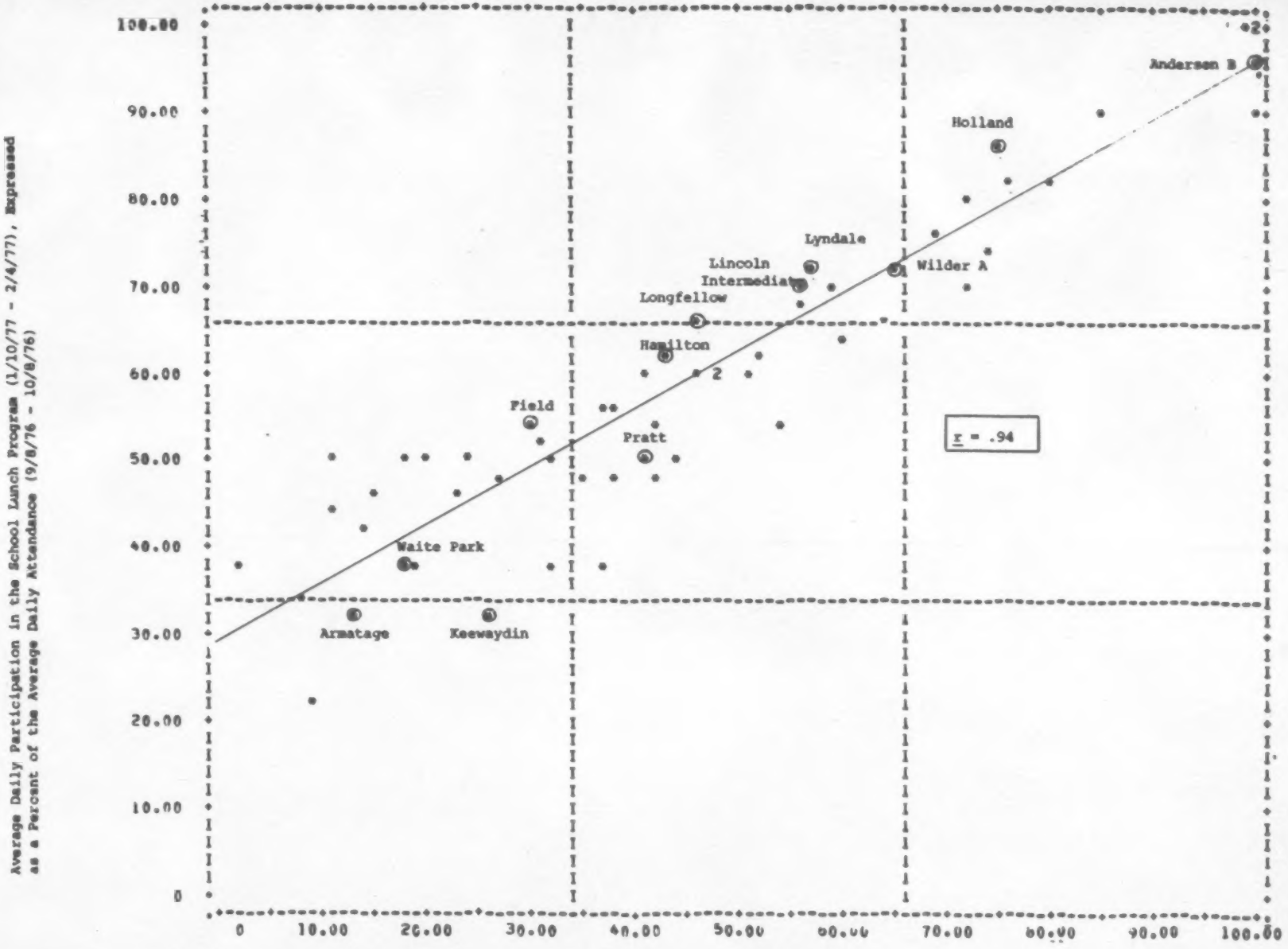

Figure 1. For Minneapolis elementary schools, the correlation between the percent of students eligible for free or reduced-price lunches, and the average daily percent of students who got a school lunch. (Based on Table 1. Schools with surveyed students are circled and labeled.)

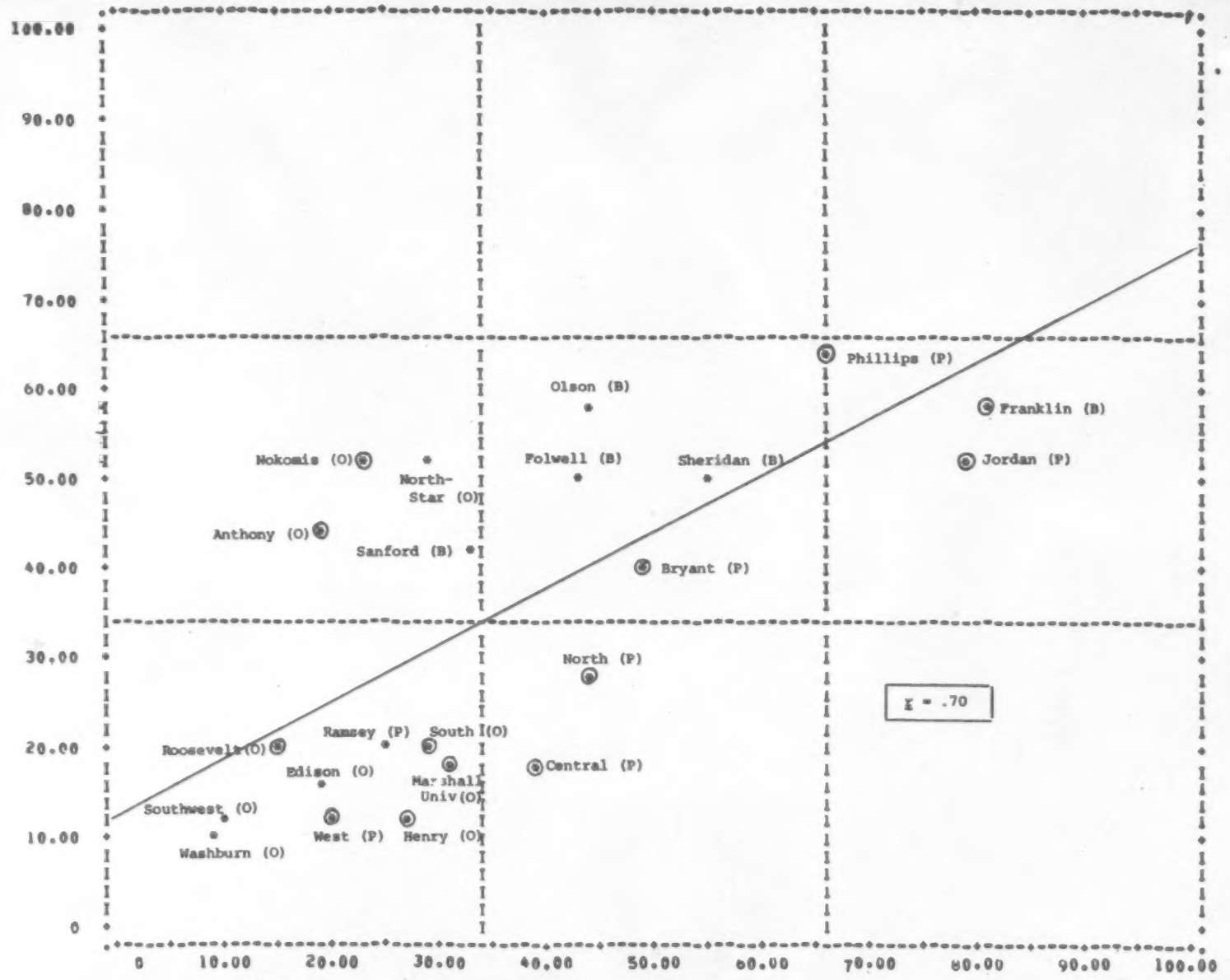

Figure 2. For Minneapolis Secondary Schools, the correlation between the percent of students eligible for free or reduced-price lunches, and the average daily percent of students who got a school lunch. (Based on Table 1. Schools with Surveyed Students are circled. The letters in parentheses indicate the type of food service: P = prepack; O = on-site service from school's own kitchen; B = bulk food shipped from the Franklin Kitchen and Served on-site.)